

**UNITED STATES TARIFF COMMISSION**

**CANNED SARDINES**

**Report to the President on Investigation No. TEA-I-13 Under  
Section 301(b)(1) of the Trade Expansion Act of 1962**



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REPORT TO THE PRESIDENT

U.S. Tariff Commission,

July 28, 1969.

To the President:

In accordance with section 301(f)(1) of the Trade Expansion Act of 1962 (76 Stat. 885), the U.S. Tariff Commission herein reports the results of an investigation, made under section 301(b) of that act, relating to canned sardines.

INTRODUCTION

The investigation to which this report relates was undertaken to determine whether--

sardines, in airtight containers, of the kinds provided for in items 112.20-.24; 112.54-.73; and 112.79-.86 of the Tariff Schedules of the United States

are, as a result in major part of concessions granted thereon under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, serious injury to the domestic industry or industries producing like or directly competitive products.

The investigation was instituted on February 5, 1969, upon petition filed on January 28, 1969, under section 301(a)(1) of the Trade Expansion Act by the Maine Sardine Packers Association, Inc. Public notice of the investigation and of a public hearing to be held in connection therewith was given in the Federal Register of February 8, 1969 (34 F.R. 1925). The hearing was held April 29-May 2, 1969, and all interested parties were afforded opportunity to be present, to

produce evidence, and to be heard. A transcript of the hearing and copies of formal briefs submitted by interested parties in connection with the investigation are attached. 1/

#### FINDING OF THE COMMISSION

On the basis of its investigation, the Commission unanimously 2/ finds that sardines, in airtight containers, of the kinds provided for in items 112.20-.24, 112.54-.73, and 112.79-.86 of the Tariff Schedules of the United States are not, as a result in major part of concessions granted under trade agreements, being imported into the United States in such increased quantities as to cause, or threaten to cause, serious injury to the domestic industry producing like or directly competitive articles.

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1/ The transcript and briefs were transmitted with the original report sent to the President.

2/ Commissioner Clubb has disqualified himself from participation in this investigation.



## CONSIDERATIONS IN SUPPORT OF THE FOREGOING FINDING

As has been made clear in the Commission's reports on previous investigations under section 301(b) of the Trade Expansion Act of 1962, the Commission, in order to make an affirmative finding under the statute, must determine (1) that the imports of the products concerned are entering the United States in increased quantities, (2) that such increased imports are attributable "in major part" to trade-agreement concessions, and (3) that the increased imports reflecting such concessions are "the major factor" in causing or threatening serious injury to the domestic industry producing like or directly competitive articles.

With respect to the first of these criteria, it is clear that the imports of canned sardines have increased within the meaning of the statute. Whether gaged by any recent period during the 1960's or by some earlier post-World War II period, the recent volume of imports has been higher than in former years. Moreover, the volume of imports of most of the major categories, or kinds, of sardines has also risen significantly, although the relationship between the current and past levels of trade varies with the kind of sardines under consideration.

During the course of the trade agreements program, the rates of duty on canned sardines have been reduced on several occasions and by various amounts, depending on the kind of sardines as well as on their unit value. For some kinds of sardines, the negotiations resulted in bindings of the statutory rates of duty or small reductions, but for

most types that are of commercial significance the duty reductions, which occurred principally in the 1940's and early 1950's, were substantial, ranging from 33 percent to 75 percent of the original statutory rates. In the absence of such reductions, the level of imports would undoubtedly have been lower.

While the various tariff concessions granted on sardines during the past 2 decades facilitated the upward trend in the volume of imports, many other factors contributed to the rise, and it is the unanimous opinion of the Commission that the increased imports are not "a result in major part of concessions . . . under trade agreements . . . ."

As noted above, the imports were substantially higher in 1968 than in any other recent year. Annual imports rose irregularly from about 22 million pounds to about 59 million pounds over the 1959-68 period. Of the increase in that period, nearly four-fifths (or 29 million pounds) consisted of sardines not in oil. Most of that gain was accounted for by imports from South Africa of pilchards in tomato sauce; the remainder consisted almost entirely of imports from Norway of sea herring not in oil.

By far the major factor in the increase in imports from South Africa was the disappearance of pilchards from the Pacific coastal waters of the United States. As a result of that phenomenon, production in California virtually ceased, and since the early 1960's U.S. requirements for this kind of sardine have been

supplied almost entirely by imports. <sup>1/</sup> As noted below, the increased imports from Norway of sardines not in oil are attributable largely to a domestic firm which discontinued production in Maine as a result of persistent scarcities of fish in Maine waters.

With respect to sardines in oil, imports rose from about 21 million pounds in 1959 to 33 million pounds in 1962, but declined to 20 million pounds in 1963. Thereafter, they rose without interruption to somewhat more than 28 million pounds in 1968. Virtually all of the increment was attributable to the increase in the volume of annual entries from Norway, which rose by almost 4 million pounds from 1964 to 1968, and of those from Canada, which rose by 3 million pounds over the same period.

While the increase in the annual imports from these two countries was facilitated by duty reductions pursuant to trade-agreement concessions, a number of other factors were of overriding importance. The rise in the annual imports from Norway, for example, coincided almost exactly, in terms of both time and volume, with the decision of one domestic firm to discontinue production in Maine and to supply its requirements from merchandise imported from Norway. According to officials of this concern, which also accounted for most of the increased imports of Norwegian sardines not in oil from 1964-68, the

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<sup>1/</sup> In its petition (p. 8), the Maine Sardine Packers Association, Inc. states: "The loss of the West Coast or Pacific catch, which has virtually disappeared, cannot be attributed to the reduction in duties. This was an ichthyological phenomenon for which no explanation has yet been found."

decision in favor of importations was primarily the result of long-standing scarcities of fish of the small sizes it needed to produce the quality of sardines it desired. 1/

As noted, most of the remaining increase in the imports of sardines packed in oil was supplied by Canada. Here again, previous duty concessions facilitated the rise in the volume of imports, but the effect of other factors has outweighed that of concessions. Among the other factors were the supply of fish in Canadian waters, the devaluation of the Canadian dollar in the early 1960's, and the rapid increase in the prices of domestic sardines in the United States in recent years. 2/

As is evident from the information developed in this investigation, the Canadian sardine canneries have ready access to a relative abundance of raw fish. Indeed, a major share of the total quantity of fish used by Maine canneries was imported duty free from Canadian fisheries in 1968. In addition, the value of the Canadian dollar declined, in terms of the U.S. dollar, from an average of \$1.04 in 1959 to 95 cents early in 1962. In May 1962 the value of the Canadian dollar--pursuant to an agreement with the International Monetary Fund--was pegged at \$U.S. 0.925 (plus or minus 1 percent) partly in an

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1/ Transcript of the hearing, pp. 403 and 438.

2/ That the various other factors outweighed the effect of concessions is evident from the fact that the imports of sardines in oil from Canada failed to increase significantly after duty reductions (ranging from 30 percent to 50 percent) were implemented in 1948 and 1951. Imports from Canada were negligible until 1966.

effort to stimulate exports and to reduce Canada's balance of payments deficit. The effect of such devaluation was subsequently augmented by sharp increases in the wholesale prices of comparable sardines produced in the United States (from an average of about \$8.78 per case in 1964 to \$12.28 per case in 1968--or a gain of about 40 percent). Such price changes were not accompanied by a rise of comparable magnitude in the prices of Canadian sardines, and, accordingly, the competitive position of the Canadian producer that accounts for all of the production in that country greatly improved.

Inasmuch as the increase in the imports is not attributable in major part to trade-agreement concessions, the Commission is precluded from making an affirmative finding of serious injury or threat thereof, regardless of the effect of such imports upon the domestic industry. The information developed during this investigation indicates that a large proportion of the total imports of canned sardines sell at prices that are substantially higher than those obtained for sardines produced domestically. Nonetheless, a significant part of the imports sell in the same price range as the domestic product and are directly competitive with it. During the hearing, some U.S. producers testified that the price competition offered by such imports has resulted in the erosion of sales in important marketing areas in recent years and there appears little doubt that such competition has been a substantive factor in the difficulties of the industry.

In this connection, it is to be observed that in recent years the domestic producers of canned sardines have taken a number of steps

to improve their competitive position. Such measures have included the increased use of raw fish from Canadian fisheries, research into methods of improving both the quality of the product and marketing techniques, and, finally, a recently announced pilot program for the use of new types of processing machinery which could ultimately greatly reduce the amount of hand labor now required in production.

Notwithstanding the foregoing efforts, most of the Maine canneries continue to operate with small profit margins and with limited capital resources. Most of the canneries are engaged exclusively, and the rest of them chiefly, in the production of canned sardines. Because none is equipped for freezing raw fish, their operations are highly seasonal and are dependent on the erratic nature of the catch of raw fish. For most such concerns the impact of the increased imports is undoubtedly of serious moment even though such imports are not due "in major part" to trade-agreement concessions.

## Description of the Product

Kind of fish used and methods of preparation

Several types of fish are canned as sardines. Commercially, nearly all of the world's output consists of (1) small sea herring or sild, obtained in the North Atlantic Ocean and the North Sea; (2) brisling or sprat, obtained only in northwestern European waters; and (3) pilchards, obtained mainly in the Mediterranean and off the Atlantic coasts of Spain, Portugal, France, and South Africa. 1/ Among the more important differences between the three kinds of fish is their size. As a rule, when used for canning as sardines, pilchards are larger than sea herring which in turn are larger than brislings. In addition, significant differences exist between various kinds of sardines with respect to their texture and taste due to differences in the species of fish used and to the methods of preparation.

Among the world's leading producing countries methods of processing vary significantly due to local custom, the types of fish packed, and the sauce or oils used in canning. In all countries, however, certain preparatory steps--such as washing, salting, cleaning, and the elimination of certain amounts of natural oils and moisture of the fish in precooking processes--are essentially the same.

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1/ Although pilchards were formerly obtained in volume off the coast of California, they have virtually disappeared from that area in recent years.

In the United States and Canada, where only sea herring are used, the fish are manually sorted and the heads and tails are removed with scissors before the raw sardines are placed in cans by hand and steam cooked. The cans are then drained, oil or sauce is added, the cans are sealed, and cooked again (sterilized).

In Norway, where both sea herring (sild) and brisling (sprat) are used, the fish are mechanically sorted and strung through the head onto a thin rod. The strings of fish are then conveyed into ovens where they are cooked with steam and lightly flavored with oak wood smoke. After removal from the oven, the strings of fish are passed through a cutting machine that removes the heads. The cooked fish are then hand packed in cans; the oil or sauce is added and the cans sealed and given a final steam cooking or sterilization.

In Portugal, Spain, and Morocco, where only pilchards are packed, the heads and tails are removed manually after which the fish are eviscerated and washed. They are then placed on racks and partially cooked in steam ovens. The subsequent procedures are the same as in other countries except when the sardines are skinned and boned. In Portugal and Morocco a large share of the pack is comprised of fish which have been skinned and the backbone and ribs removed by hand leaving a skinless and boneless piece of flesh.

In South Africa, where only pilchards are used, the fish are eviscerated and then processed as in the United States.



### Sauces or oils used

The bulk of the sardines produced in the United States is packed in soya bean oil; most of the remainder, or about 10 to 15 percent of the total output, is packed in either tomato or mustard sauce. Most of the Canadian output is in soya bean oil, whereas either olive oil or sild oil (refined herring oil) is the principal packing media used in the Scandinavian countries. 1/ As in the United States and Canada, a small share of sea herring produced in those countries is in tomato or mustard sauce.

Imports of pilchard sardines from Portugal, Spain, and Morocco are packed almost entirely in olive oil. Pilchard sardines from South Africa, on the other hand, usually are packed in tomato sauce.

### Types and sizes of cans

Sardines are packed in a number of different sizes and types of cans. In general, the type of can depends upon the type and size of fish utilized.

With respect to sea herring and brislings, the fish usually are packed in quarter-size cans having a labeled content weight (including the fish and oil or sauce) of from 3-1/4 to 4 ounces. A relatively small amount is packed in cans, weighing with their contents, up to 15 ounces, and in smaller cans having a labeled content weight of 2-1/2 and 1-1/2 ounces. By far the largest share of the cans used to

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1/ One former U.S. producer of Maine sardines, now an importer, imports smoked sardines from Norway packed in soya bean oil,

pack sea herring and brisling are made of aluminum; a declining proportion of the total is in cans made of tin plate. Most of the fish packed in the United States and Canada are in keyless cans having lithographed lids; a recent development has been the widespread use of an easy-open pull-tab lid. Most of the imports of sea herring and brisling from countries other than Canada are fitted with a lip for the use of a key; generally the key is wrapped with the can in paper or cellophane on which the brand name of the producer is printed.

Pilchards are larger than sea herring or brisling and accordingly are usually packed in larger containers. Pilchards packed in the Mediterranean countries ordinarily are packed in a "quarter club" can having a net content weight of  $4\text{-}\frac{3}{8}$  ounces. Those from South Africa are mostly in half-pound ovals, with a net content weight of 8 ounces, or in 1-pound talls or ovals having 15 ounces of net product. The production of pilchards in South Africa is predominantly in tomato sauce; those produced in Europe and North Africa are almost entirely in olive oil.

#### Number of fish per can

Sardines are packed either in one layer, two layers, or cross-packed. In one layer or two layers, the fish are packed parallel to the long side of the can, whereas in crosspacks, fish are packed in two layers parallel to the short side of the can. Brislings are packed by all three methods; sea herring usually are packed either in one layer or two layers and pilchards are ordinarily packed in one layer.

There are also variations in the number of fish contained in a can, largely due to the size of fish utilized. For the Norwegian standard quarter can marketed in the United States, the fish count of one-layer brislings and silds ranges from 6 to 12 but generally runs 8 to 12 fish per can; two-layer brislings and silds run 16 to 24 fish; and for crosspacks, consisting usually of brislings, the count ranges from 28 to 38 fish per can. 1/ By comparison the fish count for sea herring packed in the United States and Canada in quarter cans ranges from 4 to 14 and over, but most often runs 4 to 9 fish.

As noted above, pilchards are packed in several different size cans. The number of skinless and boneless sardines in a quarter club can imported from Portugal and Morocco ranges from 4 to 8 fish, mostly from 5 to 7. South African pilchards number 5 to 7 fish per can in 8-ounce ovals and about the same number in 1-pound oval and one-pound tall containers.

#### Comparison of imported and domestically produced sardines

Most imported sardines differ from the bulk of the domestic output in the kind of fish packed, the type of oil used, and the method of preparation, and packing. Except for a small California pack of pilchards, all of the domestic production consists of canned sea herring. None of the domestic sardines are skinned and boned, and none are smoked. 2/ Of the total imports of sardines in 1968, about 45

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1/ Transcript of hearing, pp. 397 and 470.

2/ One domestic producer regularly packs relatively small amounts of sardines in smoked oil (transcript of hearing, p. 226).

percent of the quantity and 24 percent of the value consisted of pilchards; 10 percent by quantity and 16 percent of the value were skinned and boned; and 38 percent by quantity and 54 percent by value were smoked. The remainder consisted of nonsmoked sea herring or sild.

Sardines imported from Canada are similar to the Maine sardines. Canadian canneries obtain their fish from the same fishing grounds and use the same packing media as the Maine producers. In 1968 imports from Canada accounted for about 6.5 percent by quantity and 5 percent by value of the total imports of sardines.

Virtually all of the domestic and Canadian in-oil sardines are packed in soybean oil. The oil used in all other countries is predominantly either sild oil or olive oil. The cost of olive oil is more than double that of other oils used in canning sardines and is, therefore, used primarily in packing high-priced sardines, such as brislings. For sardines not in oil, the packing materials--chiefly tomato and mustard sauce--used are the same for both the domestic and imported products.

## U.S. Tariff Treatment

Canned sardines are classified for tariff purposes under 14 items of part 3, of schedule 1 of the Tariff Schedules of the United States (TSUS). 1/ On the sardines provided for in 13 of the items, the original duties in the Tariff Act of 1930 have either been reduced or bound as a result of concessions granted under the trade agreements in the General Agreement on Tariffs and Trade (GATT). Only the rate of duty on skinned or boned sardines in oil, valued over 23 but not over 30 cents per pound (TSUS item 112.74), has not been subject to a tariff concession; accordingly, such sardines are not covered by this investigation. Table 1 in appendix A shows the statutory (column 2) rates of duty applicable to the products subject to the investigation, along with the modified (column 1) rates resulting from trade-agreement negotiations. 2/

Sardines not in oil

The statutory rate on imports of sardines not in oil and packed in containers weighing, with their contents, not over 15 pounds each,

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1/ During the period Aug. 31, 1963, through Dec. 31, 1967, canned sardines were classified under 12 TSUS items. On Jan. 1, 1968, to carry out the first stage of the Kennedy Round commitments made by the United States, two of those TSUS items were subdivided; this action created two additional items, making a total of 14.

2/ The TSUS provides two rates of duty for each item. The column 1, or most-favored-nation, rates applicable to canned sardines that are lower than the corresponding column 2 or statutory rates reflect tariff concessions made by the United States in trade agreements. Imports from countries designated as Communist-dominated or controlled are dutiable at column 2 rates (see general headnote 3 to the TSUS).

is 25 percent ad valorem. The statutory rate on imports of sardines in containers in excess of 15 pounds each is 1.25 cents per pound; such sardines are not an important article of commerce.

The bulk of the imports of sardines not in oil are in containers weighing, with their contents, 8 ounces to 15 pounds each (TSUS item 112.22); the current rate of duty, 6.25 percent ad valorem, was established in 1951 pursuant to a GATT concession. Almost all of the remaining imports of sardines not in oil are in containers of less than 8 ounces (TSUS item 112.20). The existing (Jan. 1, 1969) rate of duty, 8 percent ad valorem, reflects the second stage of a five-stage Kennedy Round reduction.

#### Sardines in oil

The statutory rate of duty on sardines in oil is 30 percent ad valorem. Successive trade-agreement negotiations have resulted in duty reductions for all of the major categories of trade and have involved, as well, the establishment of a number of separate provisions for such sardines based on their value and the manner in which they are processed (e.g., whether smoked, skinned or boned, etc.).

The great bulk of the imports of sardines packed in oil have a value for duty purposes of over 30 cents per pound. Most of this trade consists of smoked sardines (TSUS items 112.79 and 112.80) and sardines which have been skinned or boned (TSUS item 112.86). With regard to smoked sardines of this value, the statutory rate was reduced to 15 percent ad valorem in 1948 and to 12.5 percent ad valorem

in 1958; pursuant to Kennedy Round concessions, the duty will be further reduced by January 1, 1972, to 6 percent ad valorem or to 11.5 percent ad valorem, depending upon the type of container and the unit value of the product. The 24 percent ad valorem rate on skinned or boned sardines of this value has been in effect since 1963.

Most of the remaining imports in oil are comprised of sardines, not smoked, valued over 23 cents but not over 30 cents per pound (TSUS item 112.73), on which the current rate is 15 percent ad valorem, reflecting a 1948 concession under the GATT.

Table 2 shows the rates of duty in effect on January 1, 1968, the effective dates of such rates, and the volume of imports in 1968. In the table, the TSUS items are arranged by the manner in which the fish are prepared and packaged.

## U.S. Producers

In recent years, canned sardines have been produced in only two States--Maine and California. As a result of the disappearance of pilchards from the U.S. Pacific coast waters, production of sardines in California has virtually ceased and almost all of the domestic output is now in the State of Maine. Since 1967, commercial fishing for sardines off the coast of California has been prohibited by State law and sardines caught with the mix of other fish cannot exceed 15 percent of the total catch.

As shown in table 3, the total number of canneries in California declined from about 51 in 1948 to one in 1968; according to the trade, the remaining cannery in that State is now engaged principally in the production of other fish products. In Maine, there was a sharp build-up in the number of producing facilities immediately after World War II, which, according to industry spokesmen, resulted in excess productive capacity and contributed to subsequent plant closures in the early 1950's. <sup>1/</sup> The total number of operating plants in that State rose from 30 in 1946 to 47 in 1949. After 1952, the number of canneries declined persistently until only 22 were in operation in 1968. In 1969, one additional cannery ceased production, bringing to 21 the total number of plants in Maine currently producing sardines. A number of plants in other States (chiefly Massachusetts and New Hampshire) were engaged in producing sardines in the early postwar years, but

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<sup>1/</sup> Transcript of hearing, p. 85.



production in such plants appears to have been discontinued entirely by 1954.

In 1969, the 21 canneries producing sardines in Maine were operated by 11 firms. While three of the firms have operations involving products other than canned sardines, most of the canneries are engaged exclusively, and the rest chiefly, in the production of canned sardines. Generally the canneries are small enterprises and for the most part employ less than 100 workers at the peak of the season. In the early postwar years the average annual value of output per plant trended downward sharply as a number of new firms entered the market; during the 1950's, and through the mid-1960's, the average value of output per plant was generally less than \$500,000 annually (table 4). In the late 1960's the average value of production per plant tended to increase and by 1968 output per plant reached the highest level in recent history; nonetheless, it continued to be less than \$900,000 per cannery.

Save for one plant constructed in 1968 to replace a cannery destroyed by fire, no new plants have been built in the past 20 years. Most of the existing facilities were built with a view toward operations only during the fishing season, and even today, some lack heated facilities for year-round production. 1/

According to information supplied the Tariff Commission by questionnaire, the total original cost of the plant and equipment

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1/ About 70 percent of the total domestic landings are during the months of July-October; the remainder is mostly in the spring and early summer. Since 1965, fishing for sea herring the year-round has been permitted by Maine law.

utilized by Maine sardine canners in 1968 was about \$8 million. The accumulated depreciation through 1968 on these facilities was about \$4.2 million, and the net book value of the plant and equipment at the end of the calendar year 1968 was \$3.5 million. New investment in plant and equipment in recent years has been small. Slightly less than \$3.3 million was expended by the producers for plant and equipment for use in sardine canning during the entire 5-year period 1964-68, as indicated below (in thousands of dollars):

Year	Buildings	Machinery, equipment, and sardine carrier vessels	Total
1964-----	78	344	422
1965-----	43	244	287
1966 <sup>1/</sup> -----	153	343	496
1967 <sup>1/</sup> -----	202	705	907
1968 <sup>2/</sup> -----	546	613	1,159
Total-----	1,022	2,249	3,271

<sup>1/</sup> Includes the purchase of existing buildings, machinery, and equipment of one company by another.

<sup>2/</sup> Includes cost of replacing buildings, machinery, and equipment destroyed by fire.

Nearly a third of the aggregate expenditures during 1964-68 were made in the calendar year 1968; most of this was by one concern for the replacement of buildings, machinery, and equipment destroyed by fire.

## U.S. Production

The total U.S. output of sardines averaged about 167 million pounds annually during the 5-year period 1949-53. It decreased sharply almost every year thereafter and over the 1964-68 period averaged 31 million pounds (table 5). Although production in Maine as well as in California declined greatly during this period, the great bulk of the decrease in total U.S. output was due to the virtual cessation of production in California after the disappearance of pilchards from the Pacific coast.

In the 5-year period 1949-53 production in California--consisting entirely of pilchards packed in tomato or mustard sauce, or without sauce or oil--averaged 107 million pounds compared with about 1 million pounds in 1964-68. Over the same period, total average annual production in the State of Maine declined by somewhat more than 50 percent or from about 60 million pounds annually to about 30 million pounds. Maine's output of canned sardines reached a postwar peak of 78 million pounds in 1950, after which it declined erratically to 18 million pounds in 1961 (table 6). In 1962, output increased to 50 million pounds, after which it declined to 20 million pounds in 1964. Since 1964 production has increased almost without interruption, and in 1968 it amounted to about 40 million pounds, the highest level since the year 1962. In terms of value, Maine's output declined from \$29 million in 1948 to \$8 million in 1961 (table 7). In 1962 and 1963 it amounted to \$20 million and \$13 million, respectively, and in 1964 it dropped to about \$8 million. Over the 1964-68 period, the

value of production increased without interruption and in 1968 it was valued at \$19 million--the highest in recent history.

Supplies of Raw Fish

As has been noted, the decline in the production of sardines in California was due almost entirely to the disappearance of pilchards from the U.S. Pacific coast. An important factor in the sharp variations in the annual production of sardines in Maine has been irregularities in the annual catch of sea herring off the New England coast. Indeed, the irregularity of the supply of fish suitable for canning as sardines has long been a problem of the canneries of all of the world's major producing countries.

Although the catch of sea herring in Maine has never been a complete failure, the pack has at times been severely curtailed because of the scarcity of fish. In other years, and indeed within the season, periodic surpluses have taxed the ability of the canneries to process the available supply. Thus, according to the U.S. Bureau of Commercial Fisheries, the unusually low pack of 18 million pounds of Maine sardines in 1961, compared with 47 million pounds in 1960, was due almost entirely to an "extremely poor" catch in all fishing areas in 1961 (appendix B). In the following year, when output was nearly three times that of 1961, the fish were scarce in the early part of the season but a heavy summer run brought the packing season to an early close. A scarcity of fish appears to have been partly responsible for the small output in 1964, and again in 1965 fishing was reportedly generally spotty and left the canneries short of their requirements. According to the Bureau, output in both 1966 and 1967 was hampered by bad weather and poor fishing.

Sources of fish

In Maine, the sardine canneries have traditionally obtained their supplies from fisheries in Canada as well as in the United States. In recent years, however, Maine canneries have relied increasingly on Canada for their requirements. Whereas the imports from Canada generally accounted for a small but important part of the total supply of fresh sea herring used for sardines before 1963, they have since grown steadily both in absolute amounts and in relative importance. By 1968 the imports of sea herring from Canada amounted to about 66 million pounds and were equivalent to half of the total quantity of fresh sea herring used by the canneries in Maine. <sup>1/</sup> U.S. exports of fresh sea herring in recent years have been negligible (table 8).

In both Canada and Maine sea herring are taken principally with three kinds of gear--weirs, which are stationary fish traps set along the shore; stop seines, which are long nets used in shallow water; and purse seines, which are enclosing nets used by boats operating in open waters. For sardine canning, fish taken in weirs or stop seines near the shore are preferred since the fish caught in this fashion can be held alive in the nets for 2 or 3 days while food is cleared from the digestive tract. In the winter when the temperature of the water is lower, the herring tend to eat less and to school further offshore. In these months the predominant share of the catch usually is by vessels operating purse seines.

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<sup>1/</sup> As indicated by the table, Canada is also a major supplier of sea herring used industrially in Maine. Indeed, since 1964 the great bulk of the annual consumption of sea herring for fish meal and other industrial products has been from fish imported from Canada.

In general, the increasing reliance by the industry on sea herring supplied by the Canadian fisheries is attributable largely to the relative abundance of fish--particularly during the past few years--in Canadian coastal waters, to the more intensive fishing activity in that area, and to recent improvements in the techniques of delivering the fish. Reportedly some 200 Canadian weirs are operated for sea herring off the coast of New Brunswick in a stretch of some 50 miles, compared with 71 weirs along the whole coast of Maine 1/--a distance of some 230 highway miles. In the past, the bulk of the deliveries of imported fish used by the canneries were by boat to plants situated in Eastport and Lubec, which obtain the greater part, and during winter months practically all, of their fish from Canada. In recent years, however, the development of a tank truck service has enabled shipments further down the Maine coast. Currently sea herring are reportedly trucked as far south as Portland--an area it was not previously feasible to service by boat because of the shipping time required. 2/

#### Prices of sea herring

In both the United States and Canada, the prices of sea herring used for sardines are generally established early in the season by the

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1/ Transcript of hearing, p. 299.

2/ While the canneries in Maine are located along the seaboard from the Canadian border as far south as Portland, five of the 21 plants are located in the Lubec-Eastport area, near Canada. In 1968 the canneries in this section accounted for about one-fourth of Maine's total production. Eight canneries are located elsewhere in the northern coastal area, and nine are situated further down the coast--some as far south as Portland. Several of the larger companies operate canneries in both the northern coastal area and southern areas in order to minimize risks from the failure of the harvest in local areas.

sardine canneries. 1/ Prices are usually quoted for fish at the fishing site; almost all of the fish are transported to the canneries at the canner's expense. Prices in Canada, and in much of Maine, are quoted in terms of hogsheads of about 1,200 pounds each. Grade for grade, prices for cannery fish caught along the coast of Maine tend to be uniform. Small fish generally command a premium over the price of large fish; fish caught with either stop seines or weirs command a higher price than fish caught with purse seines.

Information supplied to the Tariff Commission by ten Maine canneries indicates that the average delivered cost of sea herring used for sardine canning rose from \$25.35 per hogshead in 1967 to \$27.01 per hogshead in 1968. In the northern part of the State, where the canneries operate chiefly with fish imported duty free from Canada, the average cost tends to be lower than in other parts of the State, principally because of the lower price of Canadian fish. Further south, where the differential in the price of fish caught in Canadian and U.S. waters is dissipated by the cost of transportation from Canada, there was no appreciable difference reported in the average cost of fish delivered at Maine canneries from U.S. and Canadian waters in 1968. 2/

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1/ Transcript of hearing, pp. 100 and 333.

2/ In 1968 the average delivered cost reported for fish from Canadian waters was \$24.78 compared with \$28.26 for fish from U.S. waters. In the Eastport-Lubec area, the average differential in favor of Canadian fish was \$5.91 per hogshead. The differential was insignificant at other Maine canneries. See transcript of hearing, pp. 96, 98-102, 337-338, and 363-364.



U.S. fishing operations

Types of gear and number of fishermen.--Within the United States, the bulk of the sea herring catch is normally taken in inshore waters by stop seines and weirs (table 9). Purse seines accounted for about 58 percent of the catch landed in 1967; in most other recent years stop seines and weirs have accounted for 70 percent or more of the total domestic catch. In the United States the bulk of the catch is used for sardine canning.

In Maine, stop seines and weirs are used exclusively for sea herring. Purse seine vessels, however, are used for catching herring mostly in the winter; at other times they may be used for catching other fish or shrimp or as sardine carrying vessels during the summer fishing season when weirs and stop seines are the principal source of fish.

Information from the Bureau of Commercial Fisheries indicates that in 1968 approximately 645 individuals were engaged in sea herring fishing operations in Maine. Somewhat more than half of these were so-called "casuals" who obtained less than half of their annual income from fishing. Including such part-time personnel and fishermen who may be engaged in operating more than one kind of gear, about 390 persons operated stop seines full or part-time in 1968. The corresponding figures for weirs and purse seines vessels were, respectively, 130 and 125.

Financial data respecting purse seine vessels.--In 1968, 20 vessels were licensed by the State of Maine to fish for sea herring

with purse seines. Of these, six were owned outright, and three partly owned, by Maine canneries. To develop information on their financial experience in 1965-68, the Tariff Commission sent questionnaires to all of the 20 vessels that were licensed to engage in purse seine operations in 1968. Usable responses were received from seven owners that in 1968 operated eleven vessels equipped with purse seine gear (table 10). 1/ Usable data were supplied for four vessels in 1965, six in 1966, eight in 1967, and eleven in 1968.

The aggregate sales of the vessels for which usable data were received rose from \$71,000 in 1965 to \$277,000 in 1967, but declined to \$237,000 in 1968. The average value of sales per vessel was \$18,000 in 1965, \$34,000 in 1966, \$35,000 in 1967, and \$22,000 in 1968. About four-fifths of the aggregate sales of these vessels over the 1965-68 period was from sea herring delivered to sardine canneries. Deliveries to bait and to pearl essence plants accounted for the bulk of the remaining sales.

In the aggregate, the vessels reported a net operating loss in each of the years 1965-68. Three of the reporting vessels indicated losses in 1965, compared with one in 1966, six in 1967, and ten in 1968.

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1/ Five vessels, although licensed to operate as purse seiners in 1968, did not actually do so. For two of the vessels, the income from sea herring fishing was negligible in relation to the total income derived from all of the vessels' operations; data for these two vessels were therefore excluded. No response was received from the operators of two vessels.

## Sales and Inventories

Sales

The total annual sales of Maine sardines have been calculated by the Commission from official statistics on production published by the Bureau of Commercial Fisheries and from producers' inventories published by the U.S. Department of Commerce; they are shown below for 1958-68 (in thousands of standard cases of 100 quarter cans each):

Year	Production	Changes in producers' yearend inventories	Sales
1958-----	2,100	-220	2,320
1959-----	1,753	-48	1,801
1960-----	1,998	+186	1,812
1961-----	754	-885	1,639
1962-----	2,147	+948	1,199
1963-----	1,619	-29	1,648
1964-----	866	-525	1,391
1965-----	1,267	-18	1,285
1966-----	1,332	-165	1,497
1967-----	1,250	-16	1,266
1968-----	1,699	+426	1,273

In 1958, total sales of Maine sardines amounted to about 2.3 million standard cases after which they declined almost without interruption to about 1.2 million cases in 1962. Sales increased to 1.6 million cases in 1963; in the ensuing 5-year period, 1964-68, they ranged between about 1.3 million and 1.5 million cases annually.

Inventories

Because well over half of the annual domestic output in Maine is produced during June through October, producers' inventories are usually

at their highest level near the end of the calendar year and at their low about the beginning of June, when the peak fishing and packing season begins. It is the practice of the industry to service its customers from inventories in the intervening months (December through May) when canning activities, because of a lack of fish, are usually at a low level. For the 1958-68 period, the following tabulation shows the inventories in the hands of Maine producers on June 1 and December 31, as reported by the U.S. Department of Commerce:

Year	Producers' inventories on--	
	June 1	Dec. 31
	<u>1,000</u>	<u>1,000</u>
	<u>cases</u>	<u>cases</u>
1958-----	235	891
1959-----	197	843
1960-----	197	1,029
1961-----	215	144
1962-----	99	1,092
1963-----	215	1,063
1964-----	254	538
1965-----	198	520
1966-----	208	355
1967-----	193	339
1968-----	222	765

Whereas yearend inventories of Maine sardines have shown wide fluctuations during 1958-68, year-to-year changes in June inventories have generally been of considerably lesser magnitude. Yearend inventories ranged from a low of 144,000 cases in 1961 to a high of about 1.1 million cases in 1962. The large differences between annual year-end inventories reflect chiefly variations in domestic production

which in turn depends upon the availability of fish. Thus in 1961, when the domestic output was at a record low, inventories at the end of the year similarly were at their lowest level. Conversely, yearend inventories were at a peak in 1962 when the domestic output was larger than in any other year during 1958-68. The ratio of yearend inventories to production in this period ranged from a low of 19 percent in 1961 to a high of 68 percent in 1963.

June inventories of Maine sardines during 1958-68 ranged from 99,000 cases in 1962 to 254,000 cases in 1964. Although such inventories are affected to some extent by the domestic production of sardines during January-May of the same year, the carryover from the preceding year is the major determinate. Thus the record low in the inventories of June 1962 followed the small pack and yearend inventories of 1961; the high June inventories in 1963 followed the large output and yearend inventories of 1962.

## U.S. Consumption

Annual U.S. consumption of sardines cannot be readily calculated since the reported official data on imports and domestic production are not strictly comparable and statistics on inventories are incomplete. <sup>1/</sup> For the discussion that follows, figures representing new annual supplies (i.e., domestic production plus imports less exports) are used to quantify trends in domestic consumption.

Volume and trend

In the decade 1959-68, the annual domestic consumption of sardines ranged from about 59 million pounds (in 1959) to 102 million pounds (in 1962). It averaged 78.3 million pounds during 1959-63 (table 11). In the next 5-year period consumption rose with almost no interruption from 67.1 million pounds in 1964 to nearly 98 million pounds in 1968, but the average level of consumption in this period was only 4 percent higher than in the preceding 5 years.

The growth in the consumption of sardines in the foregoing period, equivalent to a compound rate of about 0.3 percent per annum, was substantially below the increase of population in the same period, about

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<sup>1/</sup> Data on domestic output represent the net weight of the fish and sauce contained in the cans. For imports, on the other hand, the tariff schedule provides for the assessment of the duties on the basis of "gross" weight, which includes the weight of the cans and their contents. The weights of imports as reported for statistical purposes, however, have not been uniform; for an unknown proportion of the annual entries, the reported weight represents the labeled weights of the cans, which excludes the weights of the immediate containers.

1.3 percent per annum. The difference between the increase of U.S. sardine consumption and that of the population is reflected in the per capita consumption of sardines which declined from 0.6 pounds in 1959 to 0.4 pounds in 1968. 1/

About one-third of the total domestic sardine consumption during 1959-68 consisted of sardines not in oil. Annual consumption of such sardines in this period ranged from 1.4 million pounds in 1959 to 40.5 million pounds in 1966. During 1964-68 annual consumption varied irregularly but was substantially above the level of the preceding 5-year period. It averaged 33.2 million pounds for the years 1964-68, or some 65 percent greater than the corresponding average for 1959-63.

As distinct from sardines not in oil, annual consumption of sardines in oil has greatly fluctuated during the past decade with no discernible trend. It ranged from 32.1 million pounds in 1964 to 75.4 million pounds in 1962. Although consumption increased steadily from 32.1 million pounds in 1964 to 63.6 million pounds in 1968, the annual average of 49.7 million pounds during 1964-68 was 14.5 percent lower than that for the preceding 5-year period.

#### Ratio of imports to consumption

The proportion of consumption supplied by imports during 1959-68 has shown an upward trend. The ratio of imports to consumption in this period ranged from a low of 34 percent in 1960 to a high of 66 percent in 1964. It averaged 48 percent for the years 1959-63 and increased to 64 percent for 1964-68.

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1/ U.S. Department of the Interior, U.S. Fish and Wildlife Service, Fisheries of the United States, 1968, C.F.S. No. 5000, 1969, p. 63.

The major share of the increase in the proportion of domestic consumption supplied by imports is attributable to sardines not in oil. As the California output of canned pilchards declined, more and more of the demand for this type of sardine was supplied by imports. Thus the ratio of imports to U.S. consumption of sardines not in oil rose steadily from 33 percent in 1960 to 84 percent in 1963. Since then it has fluctuated within narrow limits between 82 percent and 88 percent. About 84 percent of the domestic consumption of sardines not in oil during 1964-68 was supplied from imports compared with 63 percent during 1959-63.

The ratio of imports to domestic consumption of sardines in oil during 1959-68 fluctuated inversely with the volume of domestic production. It reached a peak of 64 percent in 1961 when the domestic output was at its lowest level and was at a low of 34 percent in 1960, when domestic production was higher than in any other year during 1959-68 except 1962. During the period 1964-68 about 48 percent of the average annual domestic consumption of sardines in oil was supplied by imports compared with 42 percent during 1959-63.



## U.S. Exports

Before 1961, exports of sardines were very large and consisted almost entirely of sardines produced in California from pilchards. Since the virtual cessation of output in that State, U.S. exports of sardines have been negligible in relation to U.S. production and imports. In 1964-68, the exports reported in official statistics by the U.S. Bureau of the Census ranged from 1.4 million pounds, valued at \$488,000, to 3.6 million pounds, valued at \$1.2 million. In 1968 reported exports amounted to 3.0 million pounds, valued at \$1.3 million (table 12).

According to these data, Canada was the leading market in each of the years 1965-68. From information developed during the course of this investigation, however, it appears that the great bulk, if not all, of shipments to Canada have consisted of deliveries of Maine sardines (chiefly from the Eastport area) to the Canadian Pacific Railway for warehousing and ultimate reshipment to markets in the United States.

## U.S. Imports

Annual U.S. imports of sardines have fluctuated greatly but have shown an upward trend. During 1959-68 they increased irregularly from about 22.2 million pounds, valued at \$8.4 million, to 58.9 million pounds, valued at \$18.8 million (table 13 and fig. 1 in appendix C). <sup>1/</sup> The average annual imports in this period of 44 million pounds, valued at \$13.6 million, were about 60 percent larger by both quantity and value than the corresponding average in the preceding decade.

Sardines not in oil

The growth of sardine imports during 1959-68 reflects almost entirely a rise in imports of sardines not in oil (figure 2). Such imports, which since 1963 have accounted for more than half of the total, increased from about 1 million pounds, valued at \$176,000 in 1959, to a high of 34 million pounds, valued at \$5.5 million, in 1966. They declined the following year but rose in 1968 to 30.4 million pounds, valued at \$5.6 million. At this level, imports of sardines not in oil were the largest by value, though the second largest by quantity. In the period 1959-68 the average annual imports--20.3 million pounds, valued at \$3.2 million,--were nearly three times higher in both quantity and value than the corresponding average in 1949-58.

The bulk of the imports of sardines not in oil consist of pilchards, a type no longer produced in the United States in volume,

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<sup>1/</sup> For convenience, imports of skinned or boned sardines in oil, valued over 23 but not over 30 cents per pound, are included in the totals. Such imports, which are not covered by this investigation, have been very small in all years.

packed either in half ovals of 8 ounces each, or 1-pound ovals or 1-pound talls with a net content of 15 ounces each. In recent years such imports accounted for 85 percent of total imports of sardines not in oil. They rose sharply from less than 1 million pounds, valued at \$145,000, in 1959 to a high of 29 million pounds, valued at \$4.2 million, in 1966 and amounted to 23.7 million pounds, valued at \$3.7 million, in 1968. The Republic of South Africa has been virtually the sole supplier of this type of sardines (table 15).

The sharp rise in imports of pilchard sardines not in oil during 1959-68 coincided with the precipitous decline of the California output of similar sardines. Before that time the annual imports were small or negligible except in the years in which California sardines were in short supply. Although imports in 1960-68 increased at an annual rate of nearly 2 million pounds, they did not fully compensate for the decrease in the California pack.

About 15 percent of imports of sardines not in oil in recent years consisted of sild sardines packed in conventional type quarter cans. Such imports increased almost steadily from less than 100,000 pounds, valued at \$31,000, in 1959 to a high of about 6.8 million pounds, valued at \$2 million, in 1968. Compared with the 10-year period 1949-58, average annual imports during 1959-68 increased in quantity by close to 30 percent but about doubled in value. Norway has been the principal source of these imports (table 14) and the increase in entries from that country has been due largely, if not entirely, to entries by one concern which until 1962 was a domestic



distribution of imports of sardines in oil, by type of pack, is shown in the following tabulation:

Year	Sea herring or brisling		Pilchards		Total
	Smoked <u>1/</u>	Other <u>1/</u>	Skinned or boned	Other <u>1/</u>	
	Quantity (1,000 pounds)				
1964-----	13,415	645	4,742	1,211	20,013
1965-----	14,916	1,104	4,313	1,155	21,488
1966-----	15,285	1,405	5,439	1,388	23,517
1967-----	14,847	4,954	4,829	751	25,381
1968-----	17,344	4,794	5,853	328	28,319
	Percent of total				
1964-----	67.0	3.2	23.7	6.1	100.0
1965-----	69.4	5.2	20.0	5.4	100.0
1966-----	65.0	6.0	23.1	5.9	100.0
1967-----	58.5	19.5	19.0	3.0	100.0
1968-----	61.2	16.9	20.7	1.2	100.0

1/ Partly estimated.

About 90 percent of the imports in 1964-68 were of types not produced at all domestically or produced in only limited volume.

By far the greater part of the imports consist of sardines valued for duty purposes at over 30 cents per pound, and most of the remainder are valued over 23 cents but not over 30 cents (tables 18 and 19). About four-fifths of the volume of imports in 1964-68 were sardines valued at over 30 cents per pound (table 19). Imported sardines in this value bracket usually are priced higher than the bulk of the sardines of the type produced in the United States. About 70 percent of such imports consisted of smoked silds and brislings (included in table 19) for which Norway has been the predominant supplier. An additional 26 percent consisted of skinless or boneless sardines

(pilchards), mostly from Portugal (table 20), and the remainder consisted of pilchards not skinned or boned, also supplied mostly by Portugal.

About one-seventh of the total volume of imports of sardines in oil in 1964-68 were valued at over 23 cents but not over 30 cents per pound. Such imports ordinarily sell in the U.S. market at comparable prices with Maine sardines; in recent years most of the imports within this value bracket have come from Canada (table 18).

Imports of sardines valued at not over 23 cents per pound have in the past 5 years accounted for about 6 percent of total imports of sardines in oil. Generally imported sardines in this value bracket also sell domestically in the same price range as Maine sardines. The United Kingdom, Norway, and Venezuela have been the principal sources of supply (table 17).

#### Relation of imports to duty reductions

Reductions in the rates of duty originally provided in the Tariff Act of 1930 for sardines have not been uniform either in time or magnitude.

Sardines not in oil.--The rate of duty on sardines not in oil in containers weighing under 8 ounces each was at the concession level of 10 percent from August 1951 until January 1968. The annual volume of imports of such sardines during this period did not exceed 1 million pounds until 1962. It rose to about 4.5 million pounds in 1967 and to 6.8 million pounds in 1968.

As was shown above, most of the imports of sardines not in oil are in containers weighing 8 ounces but not over 15 pounds each. The rate of duty on this category has remained unchanged since August 1951. The volume of annual imports of such sardines since that time has shown substantial variations. It reached 22.2 million pounds in 1953, but remained substantially below that level until 1964. The average annual level of imports since 1964 has been 24.1 million pounds.

Imports of sardines not in oil, in containers weighing over 15 pounds each have been sporadic and negligible despite two duty reductions.

Sardines in oil.--Among the several tariff classifications for in-oil sardines, imports have entered in significant volume only in the value brackets of over 23 cents per pound. The rate of duty of 15 percent ad valorem on such sardines valued over 23 cents, but not over 30 cents per pound has been in effect since July 1948, except for the Kennedy Round concessions on smoked sardines. This value bracket was not established until 1956. Annual imports since that time reached a high of 5.2 million pounds in 1962, declined to 1.8 million pounds in 1965, and rose to 4.2 million pounds in 1968.

The most significant category of sardines in oil is the one covering sardines valued over 30 cents per pound, not skinned or boned. The duty on such imports was reduced by 50 percent in 1948. Further concessions were made in 1956 and in the Kennedy Round on imports of smoked sardines in this value bracket. Subsequent to the 1956 duty reductions, annual imports of smoked sardines in this

category reached a high of 17.1 million pounds in 1961, declined to 10.8 million pounds in 1964, and rose to 15.4 million pounds in 1968. Annual imports of unsmoked sardines in this value bracket, which have been dutiable at the same rate since 1948, irregularly declined from 3.3 million pounds in 1956 to 1 million pounds in 1968.

No reduction in duty had been made on imports of skinless and boneless sardines valued over 30 cents per pound until 1962 and 1963, when the duty was reduced in two stages from 30 percent to 24 percent ad valorem. Imports of such sardines have shown an upward trend and rose from 4.7 million pounds in 1964 to 5.9 million pounds in 1968.



## Employment

Employment data for the Maine sardine canning industry in 1964-68 are shown in table 21. Information on employment and man-hours worked was obtained by questionnaire from 10 firms that supplied usable data for 16 plants; in 1968 these 16 plants accounted for about four-fifths of the total domestic output of sardines. Data on average number of employees for an additional seven plants that comprised the remainder of the Maine industry in 1964-68 were obtained from records of the U.S. Bureau of Commercial Fisheries.

A feature of the Maine sardine canning industry is that employment is not continuous throughout the year. Work in the canneries depends upon the availability of the raw fish and accordingly is sporadic. Maine packing plants are not equipped for freezing and storage of frozen fish. 1/ Because they are highly perishable, the fish must be processed within 24 to 48 hours after they have been brought to the packing plant. 2/ Under these circumstances the packing activities of individual plants vary with the supply of fish from week to week and month to month. "Some years a plant may work but 60 days while this may increase to 100 to 150 days the next year." 3/ As a rule peak employment in sardine packing plants is afforded from July through October of each year. In all other months the plants may be wholly or partially idle.

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1/ Transcript of hearing, p. 106.

2/ Ibid., p. 297.

3/ Ibid., p. 87.

Like the Maine production of sardines, the number of employees increased over the 5-year period. The average number of production and related workers (consisting predominantly of women) engaged in the canning of sardines rose from 986 in 1964 to 1,584 in 1968 or by 61 percent. During the same period man-hours of production and related workers of the 16 plants more than doubled from 807,000 in 1964 to 1.7 million in 1968.

## Prices

At the wholesale level, most domestic and imported sardines are sold to food brokers, who in turn distribute them to independent grocers, chainstores, and so forth. Information on the annual average wholesale price of Maine sardines in oil is published regularly by the U.S. Bureau of Labor Statistics. The series of the Bureau represents the market price in New York City for sardines in soybean oil, in a keyless lithographed can. To develop wholesale price information on other types of Maine sardines, including sardines not in oil, and price data for imports, the Tariff Commission requested domestic canning firms and importers to supply information on the prices of each of their leading selling items. The price requested was the net sales price (i.e., the gross prices less all discounts, returns, and freight f.o.b. point of shipment in the United States) as of August 1, 1964-68, and February 1, 1969. The prices supplied by producers in Maine were for types that accounted for about three-fourths of their total sales in 1968. Usable price information supplied by importers was for types that in 1968 accounted for over half of their total sales.

Sardines in oil

The average price reported by the Bureau of Labor Statistics for Maine sardines in oil on the New York market was \$9.72 per case in 1961. Following the short pack in that year, the price rose sharply to \$11.03 in 1962 but then declined to \$8.79 in 1963 (table 22).

From 1964 to 1968, the average annual price increased without interruption from \$9.34 per case to \$12.25 per case. The price index (1957-59 = 100) for Maine sardines in oil rose from 120 in 1964 to 157 in 1968--a gain substantially greater than for canned tuna, frozen processed fish, or processed poultry or meats, but less than that for canned salmon.

Prices of Maine sardines, by kind of pack.--On the basis of estimates computed from responses to the Commission questionnaire, it appears that in 1968 about 63 percent of the total sales of Maine sardines in oil consisted of sardines packed in keyless, lithographed cans. Sardines in cans with keys, wrapped with cellophane or in cartons, accounted for about 14 percent of the total and the remainder, about 23 percent, was in pull-tab cans.

Over the 1964-68 period the average net wholesale price reported to the Commission for Maine sardines in keyless, lithographed cans rose without interruption from \$8.01 per case on August 1, 1964, to \$11.48 per case on August 1, 1968, or about 43 percent <sup>1/</sup> (table 23). Partly as a result of the increase in output in 1968, prices softened somewhat early in 1969, and on February 1, 1969, averaged \$10.19 per case. For the most part, the range in prices quoted for Maine sardines packed in this manner is fairly narrow, amounting to less than \$2.00 per case.

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<sup>1/</sup> For sardines of this description, the differences between the average prices reported by the Bureau of Labor Statistics and those compiled from the Commission's questionnaire reflect primarily variations in the basing point. Whereas the price reported to the Tariff Commission reflects the f.o.b. price, Maine canneries, the price reported by the Bureau is the price of sardines delivered at New York. After adjusting the prices supplied the Tariff Commission for transportation costs, the difference in the respective quotations is insignificant.

In recent years the price for Maine sardines with key, in cartons or wrapped in cellophane, has usually been \$4.00 to \$5.00 higher per case than the price of sardines in keyless lithographed cans--reflecting, chiefly, qualitative differences in the two products. Generally sardines in containers with keys are from smaller fish; a small part of the key pack is in olive oil. Again, the range in the prices quoted for sardines packaged in this manner is fairly narrow, amounting, for the most part, to less than \$3.50 per case (table 24). Over the 1964-68 period, the average net wholesale price for the key pack of Maine sardines rose from \$13.20 per case to \$15.09 per case, or about 14 percent.

The net wholesale price of Maine sardines in pull-tab cans is generally somewhat more than \$1.00 per case higher than the price for sardines in keyless lithographed cans. The price difference is attributable primarily to the higher cost of the pull-tab can. The average net selling price of such sardines rose from \$10.47 per case on August 1, 1966, to about \$12.67 per case on August 1, 1968, or by about 21 percent. On February 1, 1969, prices were slightly lower, averaging about \$12.30 per case.

Imports.--With respect to imports of sardines in oil, both the variety of merchandise offered and the range of prices are very much greater than those of Maine sardines. In terms of the kinds of packs, the imported merchandise varies from types similar to Maine sardines in virtually all respects (e.g., imports of sea herring from Canada in soya oil) to large quantities that are distinctly different

(e.g., skinned or boned sardines and pilchards in tomato sauce).

Whereas the bulk of the Maine sardines in oil are in keyless lithographed cans, virtually all of the imports in oil--with the exception of those from Canada--are in cans with key, wrapped in cellophane or paper.

In general, the bulk of the imported sardines in oil are significantly higher in price than those produced in Maine. Nonetheless, a significant share is sold in the same price range as the domestic product. The distribution of domestic and imported sardines in oil, by selected price brackets, as reported to the Tariff Commission by questionnaire, is shown for 1968 in the following tabulation:

Price per case	Sales of domestic sardines		Sales of imported sardines	
	Value	Percent of total	Value	Percent of total
	<u>1,000</u>		<u>1,000</u>	
	<u>dollars</u>		<u>dollars</u>	
\$9.00-\$13.50-----	8,540	85	687	8
\$13.51-\$16.50-----	1,475	15	1,924	23
\$16.51 and over-----	70	1/	5,683	69
Total-----	10,085	100	8,294	100

1/ Less than 0.5 percent.

On the basis of value, most of the Maine sardines packed in oil were sold in 1968 at wholesale prices ranging from \$9.00 to \$13.50 per case of 100 quarter cans; only a small part of the imports sold in this price range. About 15 percent of the domestically produced sardines were marketed at the medium price range (\$13.51-\$16.50 per case); less than a fourth of the imports were sold in this price

range. Most (about 70 percent) of the prices quoted for imported sardines exceeded \$16.51 per case in 1968. Only a negligible amount of Maine sardines sold at \$16.51 or more.

As shown in table 24, all of the 1968 wholesale prices quoted for sardines supplied by Venezuela, the United Kingdom, and Canada were less than \$13.50--or within the range of the prices of the bulk of Maine sardines in oil. Canada is by far the leading supplier. A significant proportion of the Danish sardines (the smoked sild in sild oil) was also priced at less than \$13.50 per case. A small share of the imports of smoked sild in sild oil from Norway was in this price range.

About 23 percent of the imports appear to have wholesaled at from \$13.51 to \$16.50 per case in 1968. For the most part, these imports were comprised of Norwegian sild (sea herring) in sild and in soya oil. The domestic sardines in this price range consist chiefly of sea herring in soya oil, with key, wrapped in cellophane.

As noted the bulk of the imports sell at wholesale at prices that exceeded \$16.50 per case. Substantially all of the better Norwegian and Danish sardines are priced above \$16.50 as are all of the sardines from Portugal and Morocco.

The quoted prices of the sardines in oil imported from each of the major foreign suppliers increased over the 1964-68 period although at a substantially lesser rate than did the prices of Maine sardines (table 23). Weighted by the sales in 1968, the average price of all of the imported sardines in oil for which data were collected rose

from \$19.22 on August 1, 1964, to \$19.83 on August 1, 1968, or about 3 percent. In the same period, the weighted average price for Maine sardines rose from \$8.78 per case to \$12.28 per case, or about 40 percent. From August 1, 1968, to February 1, 1969, the weighted average price of Maine sardines declined about 7 percent, that of the imported sardines rose slightly.

#### Sardines not in oil

The bulk of the domestic consumption of sardines not in oil consists of pilchards, from South Africa, packed in tomato sauce in 15-ounce cans. Maine sardines packed in this manner are from sea herring. The average annual wholesale price of Maine sea herring packed in tomato sauce in 15-ounce cans ranged from \$4.88 to \$6.00 per case of 24 cans on August 1, 1968 (table 24). The weighted average price was \$5.12. The pilchards imported from South Africa had a slightly narrower price range (\$4.50-\$5.90) on August 1, 1968, but a slightly higher weighted average (\$5.43) than the domestic product. Over the 1964-68 period, the prices of both the Maine and imported sardines tended to increase; the price of the domestic pack increased more than the price of the imports. The prices for Maine sardines ranged from \$4.00 to \$4.04 per case on August 1, 1964, compared with \$4.88 to \$6.00 per case on February 1, 1969. Prices of South African sardines ranged from \$4.35 to \$6.00 per case on August 1, 1964, and from \$4.73 to \$6.15 per case on February 1, 1969.

With respect to Maine sardines in mustard sauce in quarter cans, the prices quoted in 1968 ranged from \$10.50 to \$12.00 per case; the



weighted average price was \$11.54 per case. Thus the prices of Maine sardines not in oil in quarter cans appear to be marketed in about the same price range as Maine sardines in soybean oil. The imports, principally Norwegian sardines in mustard sauce, sell chiefly in the \$13.50 to \$16.50 price range.

## Profit-and-Loss Experience of Maine's Sardine Canneries

Questionnaires designed to obtain information on the financial experience of Maine producers of canned sardines during the period 1964-68 were sent to the 11 firms known to be in operation in 1969. Because records were not available, two small firms were unable to furnish usable data for each of the years 1964-68. Accordingly, information is currently available on the financial experience of nine firms for each of the years 1964-68. The nine firms accounted for about 95 percent of Maine's total production of sardines in 1968. Almost the entire output of the canneries concerned consisted of canned sardines. Production of other products, mainly shrimp, was minimal. Sardines accounted for more than 90 percent of total sales of each of the respondents in 1968.

Total net sales of the nine firms rose 41 percent over the 1964-68 period, or from \$10.3 million to \$14.6 million (table 25). In the aggregate, these nine concerns reported a net operating loss (before taxes) of \$146,000 in 1964, and a net operating profit of \$473,000 in 1965. Profits rose to \$839,000 in 1966, but in 1967 and 1968 their aggregate net profit declined to \$766,000 and \$536,000, respectively.

As a group, the nine firms sustained a net operating loss on sales of 1.4 percent in 1964; the ratio of net operating profits to net sales amounted to 4.6 percent in 1965 and to 6.6 percent in 1966 but then declined to 3.7 percent in 1968. Five of the nine reported losses in 1964 compared with three in 1965 and one in 1966. In 1967 and 1968, two firms reported net operating losses. As indicated

below, the profit ratio of these nine firms was somewhat higher than that reported by the Federal Trade Commission and the Securities and Exchange Commission for all firms producing food and kindred products in each of the years 1966 and 1967; in each of the years 1964, 1965, and 1968, however, the ratio was lower. Over the 1964-68 period, the profit ratio of Maine producers of canned sardines--as well as those of all U.S. producers of food and kindred products--was substantially below the average for all U.S. manufacturing corporations, as shown in the following tabulation: <sup>1/</sup>

Year	Net profits as a percentage of net sales, for--		
	All manufacturing corporations	Producers of food and kindred products	Producers of sardines
	Percent	Percent	Percent
1964-----	8.9	5.0	(1.4)
1965-----	9.4	5.0	4.6
1966-----	9.3	4.8	6.6
1967-----	8.3	4.7	5.7
1968-----	8.8	4.9	3.7

<sup>1/</sup> Data for all manufacturing corporations and for producers of food and kindred products are from the Quarterly Financial Reports for Manufacturing Corporations, published jointly by the Federal Trade Commission and Securities and Exchange Commission. Data for sardines are from information submitted by questionnaire to the U.S. Tariff Commission.

In 1968 the three largest producers accounted for about 55 percent of the total sales of Maine sardines. The aggregate net sales of these three concerns increased 56 percent during the period 1964-68, compared with a gain of 15 percent for the other six firms. In each of the years 1965-68, the profit ratios of the three largest producers were substantially above those of the other six.



APPENDIX A

Tables



Table 1.--Canned sardines: U.S. statutory and trade-agreement rates of duty, 1948-72

TSUS item No.	Description	Statutory rate	Trade-agreement rate					Imports for consumption, 1968
			July 11, 1948	Aug. 2, 1951	June 30, 1955	July 1, 1969	Kennedy Round Jan. 1, 1972	
112.20	Not in oil: In containers weighing with their contents not over 15 pounds each:	25% ad val.	12.5% ad val.	10% ad val.	10% ad val.	8% ad val.	6,753	
112.22	Under 8 ounces to 15 pounds	25% ad val.	12.5% ad val.	6.25% ad val.	6.25% ad val.	6.25% ad val.	23,678	
112.24	Over 15 pounds	1.25¢ per lb.	1¢ per lb.	1¢ per lb.	1¢ per lb.	0.8¢ per lb.	2/	
112.54	In oil, valued per pound (including weight of immediate container)--- Not over 18 cents	30% ad val.	£/	£/	30% ad val.	30% ad val.	30	
112.58	Over 18 but not over 23 cents: Neither skinned nor boned: Smoked	30% ad val.	20% ad val.	15% ad val.	12.5% ad val.	12% ad val.	540	
112.62	Not smoked	30% ad val.	20% ad val.	20% ad val.	20% ad val.	10% ad val.	203	
112.66	Skinned or boned	30% ad val.	30% ad val.	30% ad val.	30% ad val.	26% ad val.	1	
112.71	Over 23 but not over 30 cents: Neither skinned nor boned: Smoked	30% ad val.	15% ad val.	15% ad val.	15% ad val.	11.5% ad val.	727	
112.73	Not smoked	30% ad val.	15% ad val.	15% ad val.	15% ad val.	15% ad val.	3,592	
112.74	Skinned or boned 2/	30% ad val.	30% ad val.	30% ad val.	30% ad val.	30% ad val.	36	
112.79	Over 30 cents: Neither skinned nor boned: Smoked: Valued 45 cents or more per pound in tin-plate containers or 50 cents or more per pound in other containers.	30% ad val.	15% ad val.	12.5% ad val.	12.5% ad val.	10% ad val.	7,495	
112.80	Other	30% ad val.	15% ad val.	12.5% ad val.	12.5% ad val.	11.5% ad val.	9,910	
112.82	Not smoked	30% ad val.	15% ad val.	15% ad val.	15% ad val.	15% ad val.	999	
112.86	Skinned or boned	30% ad val.	30% ad val.	30% ad val.	24% ad val.	24% ad val.	5,852	

1/ Second stage of a 5-stage concession, the first stage of which became effective on Jan. 1, 1968.  
 2/ Reduced to 12.5 percent ad valorem in trade agreement with Iceland, Nov. 19, 1943; bound under the GATT, May 22, 1948.  
 3/ Effective Jan. 1, 1948. 4/ Effective Jan. 1, 1970. 5/ Less than 500 pounds.  
 6/ Rates ranged from 30 to 44 percent ad valorem. 7/ Bound under the GATT pursuant to the implementation of the TSUS.  
 8/ Concession became effective in 3 annual stages, the first on June 30, 1956.  
 9/ Not included in this investigation because statutory rate has not been subject to a tariff concession.  
 10/ Bound under the GATT effective July 1, 1962.  
 11/ Concession became effective in 2 annual stages, the first on July 1, 1962.

Table 2.--Canned sardines: Jan. 1, 1968, U.S. rates of duty, effective date, and imports for consumption, by TSUS item numbers, 1968

TSUS item	Description	Jan. 1, 1968 rate	Effective date	1968 imports
				<u>1,000</u>
				<u>pounds</u>
	Grand total-----			<u>58,866</u>
	<u>Not in oil, total-----</u>			<u>30,431</u>
	In containers weighing			
	with their contents--			
112.20:	Under 8 ounces-----	9% ad val.	Jan. 1, 1968	6,753
112.22:	8 ounces to 15 pounds--	6.25% ad val.	Aug. 2, 1951	23,678
112.24:	Over 15 pounds-----	0.9¢ per lb.	Jan. 1, 1968	<u>1/</u>
	<u>In oil, total-----</u>			<u>28,435</u>
112.54:	Not over 18 cents per			
	pound-----	30% ad val.	Aug. 31, 1963 <u>2/</u>	30
	Skinned or boned, and			
	valued per pound--			
112.66:	Over 18 cents, not			
	over 23 cents-----	28% ad val.	Jan. 1, 1968	1
112.74:	Over 23 cents, not			
	over 30 cents-----	30% ad val.	1930 <u>3/</u>	86
112.86:	Over 30 cents-----	24% ad val.	July 1, 1963	5,852
	Smoked, and valued per			
	pound--			
112.58:	Over 18 cents, not			
	over 23 cents-----	12% ad val.	Jan. 1, 1968	540
112.71:	Over 23 cents, not			
	over 30 cents-----	14% ad val.	Jan. 1, 1968	727
	Over 30 cents:			
112.79:	Over 45 cents in			
	in tin-plate con-			
	tainers or over			
	50 cents in other			
	containers-----	11% ad val.	Jan. 1, 1968	7,495
112.80:	Other-----	12% ad val.	Jan. 1, 1968	8,910
	Not smoked, and valued			
	per pound--			
112.62:	Over 18 cents, not			
	over 23 cents-----	20% ad val.	July 11, 1948	203
112.73:	Over 23 cents, not			
	over 30 cents-----	15% ad val.	July 11, 1948	3,592
112.82:	Over 30 cents-----	15% ad val.	July 11, 1948 <u>4/</u>	999

1/ Less than 500 pounds.

2/ Bound against increase.

3/ Statutory rate; not subject to trade-agreement concession.

4/ Bound against increase July 1, 1962.



Table 3.--Number of sardine canning plants in the United States, by States, 1946-69

Year	Plants canning sea herring				Plants canning pilchards			Grand total
	Maine	Massachusetts	Other	Total	California	Other	Total	
1946---	30	1	-	31	42	1	43	74
1947---	35	2	-	37	46	2	48	85
1948---	44	1	2	47	51	3	54	101
1949---	47	3	1	51	49	-	49	100
1950---	47	3	-	50	48	-	48	98
1951---	45	3	-	48	42	-	42	90
1952---	47	3	-	50	26	-	26	76
1953---	44	2	-	46	18	-	18	64
1954---	44	-	-	44	23	-	23	67
1955---	35	-	-	35	20	-	20	55
1956---	44	-	-	44	20	-	20	64
1957---	39	-	-	39	19	-	19	58
1958---	34	-	-	34	18	-	18	52
1959---	32	-	-	32	16	-	16	48
1960---	32	-	-	32	15	-	15	47
1961---	31	-	-	31	15	-	15	46
1962---	32	-	-	32	13	-	13	45
1963---	27	-	-	27	7	-	7	34
1964---	23	-	-	23	7	-	7	30
1965---	23	-	-	23	6	-	6	29
1966---	23	-	-	23	3	-	3	26
1967---	23	-	-	23	2	-	2	25
1968---	22	-	-	22	1	-	1	23
1969---	<u>1/</u> 21	-	-	<u>1/</u> 21	<u>2/</u>	-	<u>2/</u>	<u>2/</u>

1/ From U.S. Tariff Commission records.

2/ Not available.

Source: Compiled from official statistics of the U.S. Bureau of Commercial Fisheries, except as noted.

Table 4.--Maine sardine canneries: 1/ Number of plants  
and value of pack per plant, 1946-68

Year	Number of plants	Value of production	
		Total	Average per plant
1946-----	31	\$20,275,590	\$654,051
1947-----	37	28,310,674	765,153
1948-----	47	29,359,114	624,662
1949-----	51	21,051,675	412,778
1950-----	50	21,209,033	424,181
1951-----	48	14,635,352	304,903
1952-----	50	21,502,970	430,059
1953-----	46	16,954,119	368,568
1954-----	44	18,152,815	412,564
1955-----	35	9,333,350	266,667
1956-----	44	16,692,008	379,364
1957-----	39	14,733,259	377,776
1958-----	34	15,873,963	466,881
1959-----	32	14,902,142	465,692
1960-----	32	16,699,987	521,875
1961-----	31	7,559,619	243,859
1962-----	32	20,076,606	627,394
1963-----	27	13,243,902	490,515
1964-----	23	7,583,821	329,731
1965-----	23	10,868,060	472,524
1966-----	23	12,261,590	533,113
1967-----	23	13,862,330	602,710
1968-----	22	19,293,674	876,985

1/ Includes canneries in Massachusetts and New Hampshire through 1953.

Source: Compiled from official statistics of the U.S. Bureau of Commercial Fisheries.

Table 5.--Canned sardines: U.S. production by States,  
5-year averages 1949-68, annual 1964-68

Period	California	Maine			Grand total
		Not in oil	In oil	Total	
Quantity (1,000 pounds)					
5-year average:					
1949-53-----	106,869	12,579	47,951	60,530	167,399
1954-58-----	56,050	7,165	37,794	44,959	101,009
1959-63-----	17,853	5,144	33,564	38,708	56,561
1964-68-----	1,186	4,111	25,910	30,022	31,208
Annual:					
1964-----	5,438	2,403	17,856	20,259	25,697
1965-----	374	3,452	26,194	29,646	30,020
1966-----	116	6,359	24,823	31,182	31,298
1967-----	<u>1/</u>	3,752	25,508	29,260	29,260
1968-----	<u>1/</u>	4,587	35,177	39,764	39,764
Value (1,000 dollars)					
5-year average:					
1949-53-----	13,723	2,722	16,349	19,071	32,794
1954-58-----	9,356	2,196	12,761	14,957	24,314
1959-63-----	3,141	1,861	12,635	14,496	17,637
1964-68-----	225	1,514	11,260	12,774	13,000
Annual:					
1964-----	1,030	680	6,904	7,584	8,614
1965-----	71	1,103	9,765	10,868	10,939
1966-----	25	1,929	10,333	12,262	12,287
1967-----	<u>1/</u>	1,733	12,129	13,862	13,862
1968-----	<u>1/</u>	2,122	17,171	19,294	19,294

1/ Not separately shown, but production is known to be small.

Source: Compiled from official statistics of the U.S. Bureau of Commercial Fisheries.

Table 6.--Canned sardines: U.S. production, imports for consumption, and exports of domestic merchandise, 1949-68

Year	Production			Imports			Exports		
	Maine 1/	Pacific	Total	In oil	Not in oil	Total	In oil	Not in oil	Total
1949	62,413	169,570	231,983	16,034	5,577	21,611	2/	2/	106,841
1950	78,037	228,186	306,223	22,573	8,241	30,814	2/	2/	102,321
1951	34,038	128,924	162,962	19,344	5,019	24,363	2/	2/	126,661
1952	71,677	4,804	76,481	20,887	519	21,406	3,250	36,620	39,870
1953	56,485	2,863	59,348	23,147	22,496	45,643	773	9,183	9,956
1954	59,579	60,215	119,794	22,321	12,749	35,070	816	16,441	17,257
1955	25,758	63,657	89,415	20,931	620	21,551	1,179	45,431	46,610
1956	45,298	33,963	79,161	18,718	650	19,368	229	39,445	39,674
1957	45,019	22,399	67,418	20,192	4,570	24,762	379	14,922	15,301
1958	49,139	100,016	149,155	18,001	10,155	28,156	645	17,816	18,461
1959	41,024	33,956	74,980	21,153	1,010	22,163	1,271	37,453	38,724
1960	46,744	27,714	74,458	21,236	6,141	27,377	264	20,955	21,219
1961	17,635	18,859	36,494	27,877	14,611	42,488	185	7,475	7,660
1962	50,248	6,168	56,416	32,603	20,342	52,945	578	7,188	7,766
1963	37,890	2,568	40,458	19,908	21,640	41,548	146	3,493	3,639
1964	20,259	5,438	25,697	20,033	24,602	44,635	839	2,426	3,265
1965	29,646	374	30,020	21,532	23,538	45,070	2/	2/	3,376
1966	31,182	116	31,298	23,601	33,987	57,588	2/	2/	3,557
1967	29,260	3/	29,260	25,494	26,945	52,439	2/	2/	1,373
1968	39,764	3/	39,764	28,436	30,431	58,867	2/	2/	3,033

1/ Data for 1949-53 include small production in Massachusetts and New Hampshire.

2/ Data not separately classified. 3/ Not available.

Source: Production compiled from official statistics of the U.S. Bureau of Commercial Fisheries; imports and exports compiled from official statistics of the U.S. Department of Commerce.

Table 7.--Maine sardines: Production, 1946-68

Year	Quantity		Value	
	Cases	Pounds <u>1/</u>	Total	Per case
1946-----	2,842,293	66,509,656	\$20,275,590	\$7.13
1947-----	2,614,631	61,182,365	28,310,674	10.83
1948-----	3,194,554	74,752,564	29,359,114	9.19
1949-----	2,667,214	62,412,808	21,051,675	7.89
1950-----	3,334,894	78,036,520	21,209,033	6.36
1951-----	1,454,629	34,038,319	14,635,352	10.06
1952-----	3,063,110	71,676,774	21,502,970	7.02
1953-----	2,413,874	56,484,652	16,954,119	7.02
1954-----	2,546,117	59,579,138	18,152,815	7.13
1955-----	1,100,748	25,757,503	9,333,350	8.48
1956-----	1,935,823	45,298,258	16,692,008	8.62
1957-----	1,923,892	45,019,073	14,733,259	7.66
1958-----	2,099,959	49,139,041	15,873,963	7.56
1959-----	1,753,145	41,023,593	14,902,142	8.50
1960-----	1,997,618	46,744,261	16,699,987	8.36
1961-----	753,647	17,635,340	7,559,619	10.03
1962-----	2,147,367	50,248,388	20,076,606	9.35
1963-----	1,619,235	37,890,099	13,243,902	8.18
1964-----	865,751	20,258,573	7,583,821	8.76
1965-----	1,266,903	29,645,530	10,868,060	8.58
1966-----	1,332,544	31,181,530	12,261,590	9.20
1967-----	1,250,411	29,259,617	13,862,330	11.09
1968-----	1,699,302	39,763,667	19,293,674	11.35

1/ Converted from cases to pounds at rate of 23.4 pounds per case.

Source: Compiled from official statistics of the U.S. Bureau of Commercial Fisheries.

Table 8.--Sea herring, fresh: Distribution of Maine supply (i.e., estimated Maine landings plus estimated imports from Canada into Maine ports), 1958-68

Year	Canned for sardines				Other uses <sup>1/</sup>				Domestic exported to Canada		Grand total (less exports)	
	Domestic	Imported	Total	Domestic	Imported	Total	Domestic	Imported	Total	Domestic	Imported	Total
1958----	109,526	3,649	113,175	47,066	35,098	82,164	14,386	170,978	38,747	180,953		
1959----	99,238	21,573	120,811	19,243	43,160	62,403	3,411	121,892	64,733	179,803		
1960----	125,865	12,875	138,740	25,468	56,855	82,323	996	152,329	69,730	220,067		
1961----	47,884	8,436	56,320	6,504	35,064	41,568	75	54,463	43,500	97,813		
1962----	115,037	11,961	126,998	36,066	50,107	86,173	5,597	156,700	62,068	207,574		
1963----	85,149	11,006	96,155	63,085	30,487	93,572	6,306	154,540	41,493	183,421		
1964----	51,674	8,217	59,891	4,997	89,063	94,060	2,819	159,490	97,280	151,132		
1965----	54,960	20,334	75,294	11,009	97,658	108,667	4,211	70,180	117,992	179,750		
1966----	46,877	31,019	77,896	12,931	123,570	136,501	173	59,981	154,589	214,224		
1967----	54,614	42,281	96,895	9,985	77,918	87,903	-	64,599	120,199	184,798		
1968----	60,154	66,268	126,422	9,050	99,533	108,583	500	69,704	165,801	234,505		

<sup>1/</sup> Includes sea herring used for fish meal, pearl essence, and animal food, as well as herring smoked for human consumption and herring trucked to other States.

Source: Compiled from unpublished statistics of the U.S. Bureau of Commercial Fisheries.

Table 9.--Sea herring: U.S. catch landed at Maine ports, by type of gear, 1964-68

Type of gear	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Stop seines-----	48,199	43,508	24,437	18,855	34,581
Purse seines-----	7,329	11,824	17,595	37,591	20,158
Otter trawls-----	269	100	-	-	-
Weirs-----	5,062	14,748	16,266	8,144	14,956
Floating traps-----	8	-	1	11	8
Total-----	60,867	70,180	58,299	64,601	69,703
	Value (1,000 dollars)				
Stop seines-----	1,004	750	524	437	828
Purse seines-----	158	182	346	879	483
Otter trawls-----	6	2	-	-	-
Weirs-----	106	234	338	201	358
Floating traps-----	<u>2/</u>	-	<u>2/</u>	<u>2/</u>	<u>2/</u>
Total-----	1,274	1,168	1,208	1,537	1,669

1/ Not available.

2/ Less than \$500.

Source: Compiled from official statistics of the U.S. Bureau of Commercial Fisheries.

Table 10.--U.S. vessels equipped with purse seine gear for sea herring operations: Financial experience, 1965-68

Item	1965	1966	1967	1968
Number of vessel owners-----	3	5	6	7
Vessels:				
Total number operating-----	4	6	8	11
Number reporting losses-----	3	1	6	10
Total sales-----	\$70,975	\$201,583	\$277,266	\$236,554
To sardine canners-----	46,769	171,999	236,778	182,930
Other-----	24,206	29,584	40,488	53,624
Expenses charged to the crew----	-	108	1,545	2,289
Net income to the crew-----	44,150	112,823	171,984	143,617
Expenses charged to the owner---	36,681	89,749	151,070	171,174
Net operating profit or loss( )-	(9,856)	(1,097)	(47,333)	(80,526)
Other income or expense ( )-----	-	-	(5,000)	(9,000)
Net profit or loss ( )-----	(9,856)	(1,097)	(52,333)	(89,526)

Source: Compiled from data supplied the U.S. Tariff Commission by managing owners.



Table 11.--Canned sardines, in oil and not in oil: U.S. production, imports for consumption, exports of domestic merchandise, and new supply, 1959-68

Type of pack and period	Production	Imports	Exports (excluding shipments to Canada) <sup>1/</sup>	New supply	Ratio of imports to new supply
	1,000 pounds	1,000 pounds	1,000 pounds	1,000 pounds	Percent
<b>Canned sardines, not in oil:</b>					
1959-----	37,624	1,010	37,220	1,414	71
1960-----	33,369	6,141	20,955	18,555	33
1961-----	20,890	14,611	7,398	28,103	52
1962-----	13,278	20,342	7,179	26,441	77
1963-----	7,828	21,640	3,493	25,975	84
Average 1959-63-----	22,598	12,749	15,249	20,098	63
1964-----	7,841	24,602	2,426	30,017	82
1965-----	3,826	23,538	2/	27,364	86
1966-----	6,476	33,987	2/	40,463	84
1967-----	3,753	26,945	2/	30,698	88
1968-----	4,587	30,431	2/	35,018	87
Average 1964-68-----	5,297	27,900	2/	33,197	84
<b>Canned sardines, in oil:</b>					
1959-----	37,356	21,153	963	57,546	37
1960-----	41,089	21,236	264	62,061	34
1961-----	15,604	27,877	131	43,350	64
1962-----	43,138	32,603	294	75,447	43
1963-----	32,630	19,908	146	52,392	38
Average 1959-63-----	33,963	24,555	360	58,158	42
1964-----	17,856	20,033	777	32,112	62
1965-----	26,194	21,532	2/	47,726	45
1966-----	24,822	23,601	2/	48,423	49
1967-----	25,507	25,494	2/	51,001	50
1968-----	35,177	28,436	2/	63,613	45
Average 1964-68-----	25,911	23,819	2/	49,730	48
<b>Canned sardines, in oil and not in oil:</b>					
1959-----	74,980	22,163	38,183	58,960	38
1960-----	74,458	27,377	21,219	80,616	34
1961-----	36,494	42,488	7,529	71,453	59
1962-----	56,416	52,945	7,473	101,888	52
1963-----	40,458	41,548	3,639	78,367	53
Average 1959-63-----	56,561	37,304	15,609	78,256	48
1964-----	25,697	44,635	3,203	67,129	66
1965-----	30,020	45,070	1,564	73,526	61
1966-----	31,298	57,588	2,025	86,861	66
1967-----	29,260	52,439	748	80,951	65
1968-----	39,764	58,867	712	97,919	60
Average 1964-68-----	31,207	51,719	1,650	81,276	64

<sup>1/</sup> Almost all shipments to Canada in recent years have consisted of sardines produced in Maine and delivered to the Canadian Pacific Railway in Canada for warehousing and ultimate reshipment to markets in the United States. Such shipments reenter the United States free of duty and are reported in official statistics as American goods returned.

<sup>2/</sup> Not separately reported.

Source: Production compiled from official statistics of the U.S. Bureau of Commercial Fisheries; imports and exports compiled from official statistics of the U.S. Department of Commerce, except as noted.

Note.--Data on production and imports are not strictly comparable. Data on production represent the net weight of the fish (including the oil or sauce) contained in the cans, whereas data on imports include an unknown number of entries with reported weights that include the weights of immediate containers.

Table 12.--Canned sardines: U.S. exports of domestic merchandise, by principal markets, 1964-68

Market	1964	1965	1966	1967	1968
Quantity (1,000 pounds)					
Canada <sup>1/</sup> -----	62	1,813	1,533	625	2,321
Congo-----	-	-	1,068	-	156
Nicaragua-----	583	424	257	345	159
Costa Rica-----	313	323	255	126	119
Honduras-----	135	105	165	134	103
All other-----	2,172	711	279	143	175
Total-----	3,265	3,376	3,557	1,373	3,033
Value (1,000 dollars)					
Canada <sup>1/</sup> -----	18	664	682	303	1,133
Congo-----	-	-	273	-	40
Nicaragua-----	117	92	57	79	36
Costa Rica-----	63	69	55	29	26
Honduras-----	29	23	33	30	24
All other-----	502	142	68	47	55
Total-----	729	990	1,168	488	1,314

<sup>1/</sup> Almost all shipments to Canada in recent years have consisted of sardines produced in Maine and delivered to the Canadian Pacific Railway in Canada for warehousing and ultimate reshipment to market in the United States. Such shipments reenter the United States free of duty and are reported in official statistics as American goods returned.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 13.--Canned sardines: U.S. imports for consumption, by tariff classes, 1959-68

Description	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)									
Grand total-----	22,163	27,377	42,488	52,945	41,548	44,635	45,070	57,588	52,439	58,867
Not in oil, total-----	1,010	6,141	14,611	20,342	21,640	24,602	23,538	33,987	26,945	30,431
In containers weighing with their contents not over 15 pounds each:										
In immediate containers weighing with their con- tents under 8 ounces each--	73	455	792	1,197	2,062	2,255	2,642	4,695	4,266	6,753
Other-----	937	5,686	13,819	19,145	19,578	22,339	20,896	29,231	22,678	23,678
Other-----	1/	1/	1/	1/	1/	8	-	61	1	2/
In oil, total-----	21,153	21,236	27,877	32,603	19,908	20,033	21,532	23,601	25,494	28,436
Valued per pound (including weight of immediate con- tainer)--										
Not over 18¢-----	203	-	80	121	383	4	12	71	55	30
Over 18¢ but not over 23¢:										
Neither skinned nor boned:										
Smoked-----	150	188	226	1,696	282	836	1,674	683	670	541
Not smoked-----	188	125	902	4,037	131	146	752	773	950	203
Skinned or boned-----	3/	3/	3/	3/	-	-	-	-	13	1
Over 23¢ but not over 30¢:										
Neither skinned nor boned:										
Smoked-----	261	1,261	2,189	5,252	3,412	2,956	1,844	2,556	4,123	727
Not smoked-----	1,170	1,261	2,189	5,252	3,412	2,956	1,844	2,556	4,123	3,592
Skinned or boned 4/-----	3/	3/	3/	3/	3/	17	31	13	59	86
Over 30¢:										
Neither skinned nor boned:										
Smoked:										
Valued 45¢ or more per pound in tin-plate containers or 50¢ or more per pound in other containers-----	13,186	13,236	17,090	15,174	10,393	10,833	12,554	13,434	13,911	7,495
Other-----	1,175	1,404	1,410	1,137	774	499	352	632	897	999
Not smoked-----	1,175	1,404	1,410	1,137	774	499	352	632	897	999
Skinned or boned-----	4,820	5,022	5,980	5,186	4,532	4,742	4,313	5,439	4,816	5,852

See footnotes at end of table.

Table 13.--Canned sardines: U.S. imports for consumption, by tariff classes, 1959-68--Continued

Description	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
	Value (1,000 dollars)									
Grand total-----	8,371	9,114	12,544	16,290	12,994	13,441	13,876	17,031	16,510	18,786
Not in oil, total-----	176	785	1,807	2,909	3,402	3,863	3,634	5,495	4,660	5,609
In containers weighing with their contents not over 15 pounds each:										
In immediate containers weighing with their contents under 8 ounces each-----	31	85	172	318	719	708	835	1,312	1,292	1,957
Other-----	145	700	1,635	2,591	2,683	3,155	2,799	4,172	3,368	3,652
Other-----	1/	1/	1/	1/	1/	2	-	11	2/	2/
In oil, total-----	8,195	8,329	10,737	13,381	9,592	9,578	10,242	11,536	11,850	13,177
Valued per pound (including weight of immediate container)--										
Not over 18¢-----	36	-	14	23	81	1	4	26	7	3
Over 18¢ but not over 23¢:										
Neither skinned or boned:										
Smoked-----	32	45	48	446	88	222	421	163	224	150
Not smoked-----	40	27	188	913	34	39	203	195	227	57
Skinned or boned-----	3/	3/	3/	3/	-	-	-	-	5	2/
Over 23¢ but not over 30¢:										
Neither skinned nor boned:										
Smoked-----	72	325	568	1,571	1,200	1,044	623	786	1,089	214
Not smoked-----	301	325	568	1,571	1,200	1,044	623	786	1,089	923
Skinned or boned 1/2-----	3/	3/	3/	3/	3/	8	10	4	19	25
Over 30¢:										
Neither skinned nor boned:										
Smoked:										
Valued 45¢ or more per pound in tin-plate containers or 50¢ or more per pound in other containers-----	5,358	5,429	6,963	7,438	5,566	5,503	6,465	7,133	7,336	4,911
Other-----	462	535	524	460	339	217	155	289	407	3,448
Not smoked-----	1,894	1,968	2,432	2,530	2,284	2,544	2,361	2,940	2,536	3,001

1/ Not available.

2/ Less than 500 pounds.

3/ Not separately classified but included with other items in table.

4/ Not covered by this investigation.

5/ Less than \$500.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 14.--Sardines, not in oil, in airtight containers weighing with their contents under 8 ounces each: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Norway-----	1,603	1,688	2,616	2,634	4,114
Republic of South Africa-----	407	708	1,649	940	1,719
Canada-----	18	20	116	387	530
Morocco-----	23	104	200	131	210
Denmark-----	58	34	87	103	132
All other-----	146	88	27	71	48
Total-----	2,255	2,642	4,695	4,266	6,753
	Value (1,000 dollars)				
Norway-----	561	613	857	885	1,348
Republic of South Africa-----	76	132	281	169	307
Canada-----	3	5	29	99	130
Morocco-----	11	44	100	68	106
Denmark-----	18	11	36	45	50
All other-----	39	30	9	26	16
Total-----	708	835	1,312	1,292	1,957

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 15.--Sardines, not in oil, in airtight containers weighing with their contents 8 ounces to 15 pounds each: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Republic of South Africa-----	20,559	20,373	28,554	22,391	23,160
Norway-----	321	178	277	173	299
Portugal-----	61	-	-	4	26
Canada-----	8	71	62	-	34
All other-----	1,390	274	338	110	159
Total-----	22,339	20,896	29,231	22,678	23,678
	Value (1,000 dollars)				
Republic of South Africa-----	2,891	2,692	4,025	3,290	3,509
Norway-----	66	43	68	49	86
Portugal-----	7	-	-	1	15
Canada-----	2	14	14	-	12
All other-----	187	50	65	28	30
Total-----	3,153	2,799	4,172	3,368	3,652

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 16--Canned sardines, in oil: U.S. imports for consumption,  
by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Norway-----	11,949	12,448	12,860	13,493	15,663
Portugal-----	5,593	5,027	6,024	5,229	5,815
Canada-----	36	286	1,083	3,425	3,242
Morocco-----	688	625	1,495	1,015	1,155
Denmark-----	868	851	719	701	1,136
United Kingdom-----	534	1,544	770	498	708
All other-----	365	751	650	1,133	717
Total-----	20,033	21,532	23,601	25,494	28,436
	Value (1,000 dollars)				
Norway-----	5,806	6,316	6,745	7,085	7,931
Portugal-----	2,812	2,546	3,064	2,558	2,834
Canada-----	9	76	280	819	807
Morocco-----	287	283	616	502	604
Denmark-----	372	361	404	360	512
United Kingdom-----	140	390	188	122	194
All other-----	152	270	239	404	295
Total-----	9,578	10,242	11,536	11,850	13,177

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 17.--Canned sardines, in oil, valued not over 23 cents per pound, including weight of immediate container: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
United Kingdom-----	427	1,402	642	360	258
Norway-----	194	76	26	262	121
Venezuela-----	50	359	268	478	121
Denmark-----	196	282	1	11	122
Canada-----	36	239	272	464	54
All other-----	83	80	318	113	99
Total-----	986	2,438	1,527	1,688	775
	Value (1,000 dollars)				
United Kingdom-----	103	346	146	79	62
Norway-----	62	22	8	119	47
Venezuela-----	14	108	73	114	35
Denmark-----	51	66	<sup>1/</sup>	9	32
Canada-----	9	61	82	111	10
All other-----	23	25	75	31	24
Total-----	262	628	384	463	210

<sup>1/</sup> Less than \$500.

Source: Compiled from official statistics of the U.S. Department of Commerce.



Table 18.--Canned sardines, in oil, valued over 23 cents per pound but not over 30 cents per pound, including weight of immediate container: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Canada-----	-	47	807	2,961	3,163
Portugal-----	796	768	842	564	208
Denmark-----	166	101	79	140	341
United Kingdom-----	16	2	41	39	370
Norway-----	1,546	521	309	119	94
All other-----	449	436	491	359	229
Total-----	2,973	1,875	2,569	4,182	4,405
	Value (1,000 dollars)				
Canada-----	-	15	196	708	781
Portugal-----	276	259	296	193	64
Denmark-----	52	30	25	47	110
United Kingdom-----	5	1	10	9	104
Norway-----	557	180	101	40	27
All other-----	162	148	162	111	76
Total-----	1,052	633	790	1,108	1,162

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 19.--Canned sardines, in oil, smoked or not smoked, but not skinned or boned, valued over 30 cents per pound, including weight of immediate container: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Norway-----	10,209	11,848	12,512	13,102	15,448
Denmark-----	503	469	640	550	672
Portugal-----	312	287	482	593	626
Morocco-----	97	18	126	164	206
Spain-----	32	41	60	104	129
All other-----	179	243	246	295	323
Total-----	11,332	12,906	14,066	14,808	17,404
	Value (1,000 dollars)				
Norway-----	5,187	6,112	6,629	6,919	7,857
Denmark-----	266	266	378	305	370
Portugal-----	132	121	222	253	275
Morocco-----	40	7	53	72	84
Spain-----	12	16	26	46	54
All other-----	83	98	114	148	164
Total-----	5,720	6,620	7,422	7,743	8,804

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 20.--Canned sardines, in oil, skinned or boned, valued over 30 cents per pound, including weight of immediate container: U.S. imports for consumption, by principal sources, 1964-68

Source	1964	1965	1966	1967	1968
	Quantity (1,000 pounds)				
Portugal-----	4,454	3,964	4,683	4,053	4,981
Morocco-----	250	313	737	696	842
All other-----	38	36	19	67	29
Total-----	4,742	4,313	5,439	4,816	5,852
	Value (1,000 dollars)				
Portugal-----	2,396	2,162	2,541	2,102	2,495
Morocco-----	122	176	387	389	488
All other-----	26	23	12	45	18
Total-----	2,544	2,361	2,940	2,536	3,001

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table 21.--Average number of employees and man-hours worked  
in Maine sardine canning plants, 1964-68

Year	Average number of employees <sup>1/</sup>		Man-hours worked by production workers <sup>2/</sup>
	Total	Production and related workers	
			<u>1,000</u> <u>hours</u>
1964-----	1,001	986	807
1965-----	<sup>3/</sup>	<sup>3/</sup>	1,263
1966-----	1,456	1,399	1,209
1967-----	1,571	1,516	1,277
1968-----	1,646	1,584	1,734

<sup>1/</sup> Represents employment by 12 firms operating 23 plants that accounted for practically all of the Maine production in 1964-68. Data for 7 of the plants obtained from U.S. Bureau of Commercial Fisheries.

<sup>2/</sup> Information is for 16 plants (operated by 10 firms), which in 1968 accounted for 79 percent of the output of sardines in Maine.

<sup>3/</sup> Not available.

Source: Compiled from data submitted to the U.S. Tariff Commission by the domestic producers, except as noted.

Table 22.--Wholesale prices per case of canned Maine sardines, and indexes of wholesale prices of such sardines, other canned fish, processed poultry, and meats, 1961-68 and, by months, January 1968-April 1969

Period	Annual average or monthly price per case of canned sardines <sup>1/</sup>	Index of wholesale prices (1957-59 = 100) of--					
		Canned sardines <sup>1/</sup>	Canned salmon <sup>2/</sup>	Canned tuna <sup>3/</sup>	Frozen processed fish	Processed poultry	Meats
1961-----	\$9.72	124.6	121.8	100.3	95.3	85.8	95.1
1962-----	11.03	141.5	119.7	106.7	113.9	90.2	97.8
1963-----	8.79	112.7	105.0	100.1	107.9	88.7	91.5
1964-----	9.34	119.9	95.9	102.7	101.6	87.4	89.0
1965-----	10.10	129.6	102.0	103.0	108.3	90.9	100.8
1966-----	10.50	134.7	122.0	118.6	124.4	97.3	109.9
1967-----	11.56	148.3	125.7	111.8	120.0	86.0	105.0
1968-----	12.25	157.1	140.0	114.7	128.1	91.0	107.7
1968:							
January----	12.25	157.1	141.7	107.7	118.7	87.0	105.1
February---	12.25	157.1	141.7	107.7	119.5	93.2	106.7
March-----	12.25	157.1	143.8	115.9	121.0	89.7	106.8
April-----	12.25	157.1	143.8	115.9	124.6	89.3	105.0
May-----	12.25	157.1	143.8	115.9	129.1	91.8	106.2
June-----	12.25	157.1	143.8	115.9	130.5	93.6	109.4
July-----	12.25	157.1	143.8	115.9	129.6	97.9	113.2
August-----	12.25	157.1	143.8	115.9	126.4	92.9	109.3
September--	12.25	157.1	136.2	115.9	131.2	93.7	110.8
October----	12.25	157.1	136.2	115.9	135.3	86.7	106.3
November---	12.25	157.1	132.9	115.9	137.0	89.2	106.7
December---	12.25	157.1	128.6	118.1	134.1	87.2	106.7
1969:							
January----	12.25	157.1	130.8	118.1	133.9	92.6	110.1
February---	12.25	157.1	130.8	118.1	134.6	95.1	109.8
March-----	12.25	157.1	130.8	118.1	136.0	96.1	110.6
April-----	12.25	157.1	130.8	118.1	138.2	92.7	113.8

<sup>1/</sup> Sardines, Maine, keyless, oil, 1/4 drawn (3-3/4 oz.), 100 cans per case.

<sup>2/</sup> Salmon, pink, No. 1 tall (16 oz.), 48 cans per case.

<sup>3/</sup> Tuna, light meat, chunk, No. 1/2 tuna (6-1/2 oz.), 48 cans per case.

Source: Compiled from official statistics of the U.S. Bureau of Labor Statistics.

Table 23.--Canned sardines: Average U.S. wholesale price per case (of 100 quarter cans each) of Maine and imported sardines, in oil, on Aug. 1 of 1964-68 and on Feb. 1, 1969

Item	Aug. 1, 1964	Aug. 1, 1965	Aug. 1, 1966	Aug. 1, 1967	Aug. 1, 1968	Feb. 1, 1969
Maine sardines: <u>1/</u>						
In lithographed						
keyless cans-----	\$8.01	\$9.35	\$9.56	\$10.69	\$11.48	\$10.19
In pull-tab cans-----	-	-	10.47	11.91	12.67	12.30
In cans with key,						
wrapped or in						
cartons-----	13.20	13.16	13.61	14.68	15.09	15.09
Weighted						
average <u>2/</u> -----	8.78	9.91	10.36	11.55	12.28	11.39
Imported sardines <u>3/</u>						
from--						
United Kingdom-----	-	-	-	-	9.25	-
Canada-----	-	-	10.00	10.25	10.25	10.25
Venezuela-----	-	-	10.00	10.00	10.25	10.50
Denmark-----	16.27	16.65	16.81	17.07	17.37	17.44
Norway-----	19.71	19.58	21.40	21.38	21.50	21.76
Morocco-----	19.00	19.50	19.50	20.00	20.00	22.00
Portugal-----	21.76	22.35	23.29	22.97	22.55	23.60
Weighted						
average <u>2/</u> -----	19.22	19.27	19.54	19.54	19.83	20.07

1/ F.o.b. Maine plants.

2/ Weighted by sales in 1968.

3/ F.o.b. point of shipment, chiefly New York.

Source: Compiled from data supplied the U.S. Tariff Commission by Maine sardine canners and U.S. importers of sardines.

Table 24.--Canned sardines: U.S. wholesale price per case of Maine sardines and of imported sardines on Aug. 1 of 1964-68 and on Feb. 1, 1969

Item	Aug. 1, 1964	Aug. 1, 1965	Aug. 1, 1966	Aug. 1, 1967	Aug. 1, 1968	Feb. 1, 1969
Price per case of 100 quarter cans <sup>1/</sup>						
Maine:						
Sardines in mustard sauce, in keyless lithographed cans-----	\$7.00-\$8.96	\$8.50-\$9.84	\$8.64-\$9.85	\$9.59-\$11.10	\$10.50-\$12.00	\$10.00-\$12.00
Sardines in soya oil, in keyless lithographed cans-----	7.00- 9.00	8.69- 9.85	9.06-10.00	9.59- 11.00	10.75- 12.00	10.00- 12.00
Sardines in soya oil, in pull-tab lithographed cans-----	2/	2/	9.30-10.84	10.95- 12.60	11.80- 13.10	10.50- 13.00
Sardines in oil, in cans with key, wrapped, or in cartons-----	3/ 13.20	3/ 13.60	3/ 13.61	13.00- 16.00	14.00- 17.50	14.00- 17.50
United Kingdom:						
Brisling sardines in oil, in keyless cans-----	2/	2/	2/	2/	3/ 9.25	2/
Venezuela:						
Sardines in oil, not smoked, single layer, in keyless lithographed tin cans-----	2/	2/	2/	10.00	10.00- 10.25	10.50
Canada:						
Sardines in soya oil, in keyless lithographed cans-----	2/	2/	3/ 10.00	3/ 10.25	3/ 10.25	3/ 10.25
Denmark:						
Smoked sild in sild oil, single layer, in wrapped, aluminum cans with key-----	2/	2/	2/	11.50- 12.70	11.50- 12.70	11.75- 12.70
Smoked brisling in olive oil, double layer, in wrapped, aluminum cans with key-----	19.35-23.40	19.35-23.00	19.00-26.30	19.00- 26.60	19.00- 26.60	19.00- 20.25
Norway:						
Smoked sild in sild oil, single layer, in wrapped, aluminum cans with key-----	11.59-18.00	11.59-18.00	11.95-19.00	12.50- 19.00	12.50- 19.50	12.90- 19.50
Smoked brisling in olive oil, double layer, in wrapped, aluminum cans with key-----	18.50-25.00	18.50-25.00	20.50-30.40	20.00- 30.40	21.00- 32.50	21.50- 32.50
Morocco:						
Sardines in olive oil, skinless and boneless, in wrapped tin cans with key-----	3/ 19.00	3/ 19.50	3/ 19.50	3/ 20.00	3/ 20.00	3/ 22.00
Portugal:						
Sardines in olive oil, skinless and boneless, in wrapped tin cans with key-----	20.00-33.00	20.50-33.00	20.00-34.40	21.00- 34.40	20.00- 35.00	21.20- 35.05
Price per case of 24 cans of 15 ounces net each						
Maine:						
Sardines in tomato sauce-----	\$4.00-\$4.04	\$4.00-\$4.43	\$4.50-\$4.91	\$3.93-\$5.50	\$4.88-\$6.00	\$4.88-\$6.00
South Africa:						
Sardines in tomato sauce-----	4.35- 6.00	4.35- 6.00	4.46- 5.65	4.46- 5.75	4.50- 5.90	4.73- 6.15

<sup>1/</sup> Net weight of quarter cans ranging from 3 1/4 ounces to 4 ounces.

<sup>2/</sup> Not available.

<sup>3/</sup> One price quotation only.

Source: Compiled from data supplied the U.S. Tariff Commission by Maine sardine canners and U.S. importers of sardines.

Table 25.--Profit-and-loss experience of U.S. canners  
of Maine sardines, 1964-68

Item	1964	1965	1966	1967	1968
Number of reporting firms included-----	9	9	9	9	9
Number of sardine canning plants in operation-----	18	17	18	19	19
Overall operations of the establishments canning sardines:					
Net sales--1,000 dollars--	10,343	10,380	12,799	13,414	14,590
Net operating profit or loss ( ) before income taxes-----1,000 dollars--	(146)	473	839	766	536
Ratio of net operating profit or loss ( ) to net sales-----percent--	(1.4)	4.6	6.6	5.7	3.7
Number of firms reporting loss-----	5	3	1	2	2

Source: Compiled from data submitted to the U.S. Tariff Commission by U.S. canners.



APPENDIX B

Excerpts from

New England Fisheries, Annual Summary,

U.S. Bureau of Commercial Fisheries,

1958-67



1958

. . . The total pack of canned Maine sardines in 1958 was 11 percent less than the previous year, and well below the average for the past 10 years . . . . Only 30 plants operated in 1958, 9 fewer than the year before. The rather poor market in 1957 apparently discouraged some plants from operating in 1958. However, those which did pack, had a good season. Two plants were dismantled before the 1958 season.

The bulk of the 1958 pack was in the western and central areas of the Maine coast. Sizeable fish runs failed to materialize in Washington County for the fifth year in a row. Some canneries were forced to close in the summer for periods due to poor catches.

1959

The 1959 pack fell far short of Maine canners preseason expectations. Catches were very light all year except for a few short periods when catches were normal or slightly above normal. Canners could anticipate a short pack early as the season was late in starting and the catches were limited in June, normally a heavy month. Poor spawning and survival conditions were blamed for the short supply. In addition to the scarcity, much of the fish was too large. Several canners closed early in the season rather than handle the large fish, and more plants closed in mid-October when the usual fall run of more desirable size fish failed to appear. Those plants which continued operations through November had a very sporadic supply.

The 1959 pack was predominantly comprised of fish caught in the Western and Eastern areas, while the Central area was relatively unproductive. This is the first time in years this area has failed.

1960

Poor fishing in June and July 1960 put a damper on the Maine sardine industry's preseason goal of 2 million cases. Early production indicated the pack might even be smaller than in 1959 but fishing improved in the late summer. Marketable-size fish comprised the

bulk of the season's catch. In 1959 there had been an unusually high percentage of undesirable large fish. Fewer plants operated in 1960 and most were closed by October 1. Fishing was negligible in October and November.

The 1960 pack was comprised mostly of fish caught in the Eastern area (Washington County) where fishermen reported the best catches in years. The Central area rebounded from a particularly poor year in 1959 and had near normal productivity. Fishing was spotty and production was limited in the Western area (Portland).

### 1961

. . . Poor fishing results in 1961 caused the lightest pack of Maine sardines since 1938 . . . . The total production was 66 percent lighter than 1960. The total value to the canners was estimated at \$7.5 million, compared with \$18 million the previous year.

Fishing was extremely poor in all areas in 1961. Fish failed to move into shallow waters in quantity where they are usually caught. Purse-seining was tried offshore by a few vessels with some results, but it was felt this relatively new venture was tried too late in the season for best results. Most of the 31 plants continued operations into November in anticipation of late season runs of fish which never materialized.

The best catches were made in the central area, while the season was a complete failure in the eastern and western areas.

### 1962

. . . The 1962 pack of canned Maine sardines was 3 times heavier than the poor 1961 pack and the heaviest since 1957 . . . . The pack had an estimated value of \$20 million.

The Maine Legislature authorized a 1962 season of 13 months--December 2, 1961, to January 1, 1963--to help the industry recover from its disastrous 1961 season. The 1961 season was from April 15 to December 1--the usual legal packing season for canned sardines in Maine. However, the extended 1962 season had little effect on

the total pack as fish were scarce in the early months of the season, and a heavy summer run of fish brought the season to an unusually early close.

Spotty fishing in the eastern and central areas until mid-July was a matter of some concern to canners. Up to that time good catches in the western area had provided the bulk of the 1962 pack. But by late July large quantities of high-quality fish were available in shallow waters along the entire coast. Canners' stock mounted rapidly and several plants closed in August. Most of the industry's 31 plants had closed by October 1.

### 1963

. . . The Maine sardine industry produced a lighter pack of canned sardines in 1963. . . . Heavy inventories and strong foreign competition led to reduced operations. The pack value decreased \$6.4 million.

Most of the 1963 pack was processed in the June-August period when fish were plentiful along most of the Maine coast. Only 27 plants packed sardines in 1963. Most plants were closed by early September, and all were closed by November 1.

The usual April 15-December 1 packing season was in effect in 1963. (As an emergency measure the Maine legislature authorized a 1962 season of 13 months--December 2, 1961, to January 1, 1963.)

### 1964

. . . The 1964 Maine sardine canning season produced a relatively small pack equivalent to 865,751 standard 100-can (No.  $\frac{1}{4}$  cans) cases . . . .

This was well below the 1963 production of 1,619,235 cases and less than one-half the pack in 1962. However, it did exceed the historically short pack of 1961.

As in 1961, a scarcity of fish was responsible for the small output in 1964 despite the fact that most of the industry's 23 canneries remained operational until the closing day. Fishing

was spotty all through the season with the bulk of the catches made in the area from Stonington to Portland.

There was no clear-cut explanation for the fish scarcity, and it was probably a temporary combination of natural conditions. There was no evidence that the condition would continue during the 1965 packing season.

### 1965

. . . The 1965 pack of canned Maine sardines was 43 percent greater than the 1964 pack. . . .

Fishing was generally spotty in 1965 and many of the 23 operating canneries fell short of their normal requirements. Washington County had its best fishing in years. The mid-coast area had fair catches, while activity in the usually productive waters in and around Casco Bay was virtually at a standstill for the entire season. Federal and State scientists were still trying to determine the reasons for the fluctuation in supply that has been apparent since 1960.

### 1966

. . . The 1966 Pack of canned Maine sardines was slightly above the 1965 pack. There were 1,332,783 standard cases (100 No.  $\frac{1}{4}$  cans) packed, compared with 1,266,903 standard cases the previous year . . . There were 23 canning plants operating in both years, according to the Maine Sardine Council.

The Council is made up of seven industry members appointed by the Commissioner of Sea and Shore Fisheries. It is responsible for expenditures and activities of an industry development program financed by a 25¢ a case State tax imposed on the industry at its own request in 1951.

The new law (1965) legalizing year-round canning of Maine sardines removed the traditional December 1 closing date for the packing season. Now winter canning is optional to all Maine sardine packers and allows winter canning with domestic as well as imported

herring. In Jan.-Mar. 1966 a half dozen plants remained open, and during December most of the 23 plants remained open for at least part of the winter, although rough weather did hamper fishing and reduce production.

1967

. . . The 1967 pack of canned Maine sardines was valued at \$13.9 million, \$1.6 million above the previous year and the highest value since 1962. . . . However, the total pack of 1,250,411 standard cases (100 No.  $\frac{1}{4}$  cans) was 78,000 cases under the previous year. There were 23 canning plants operating in each year, but one has since been dismantled, according to the Maine Sardine Council.

The light 1967 pack was due mostly to extended periods of bad weather and generally poor spring fishing.

The poor spring fishing was blamed on the exceptionally cold weather--water temperatures in April were the lowest in 37 years and in May the coldest since 1917. Fishing in the fall was also spotty.





APPENDIX C

Figures



Figure 1.--Canned sardines, in oil and not in oil: U.S. imports and production in Maine, 1949-68

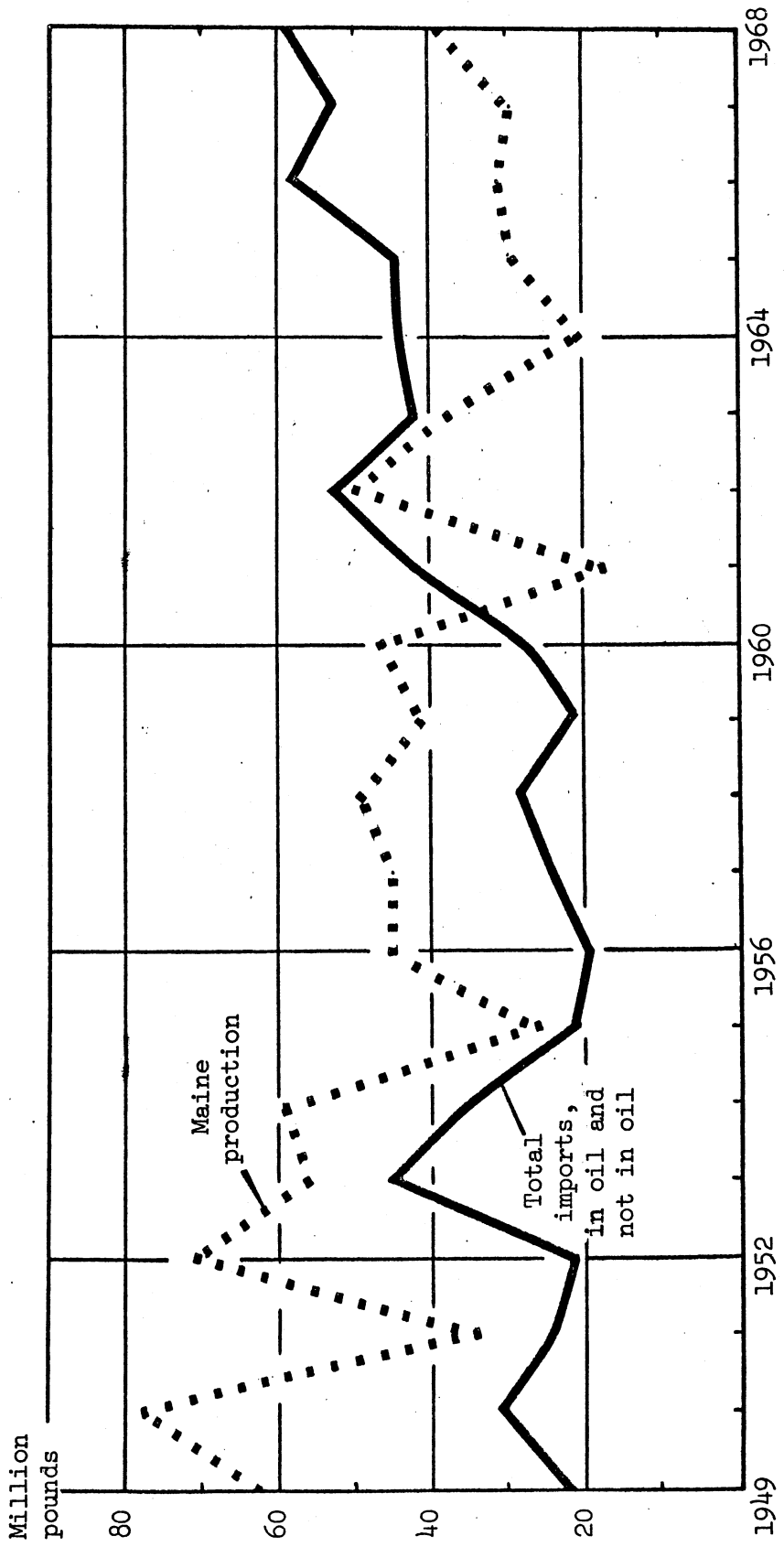
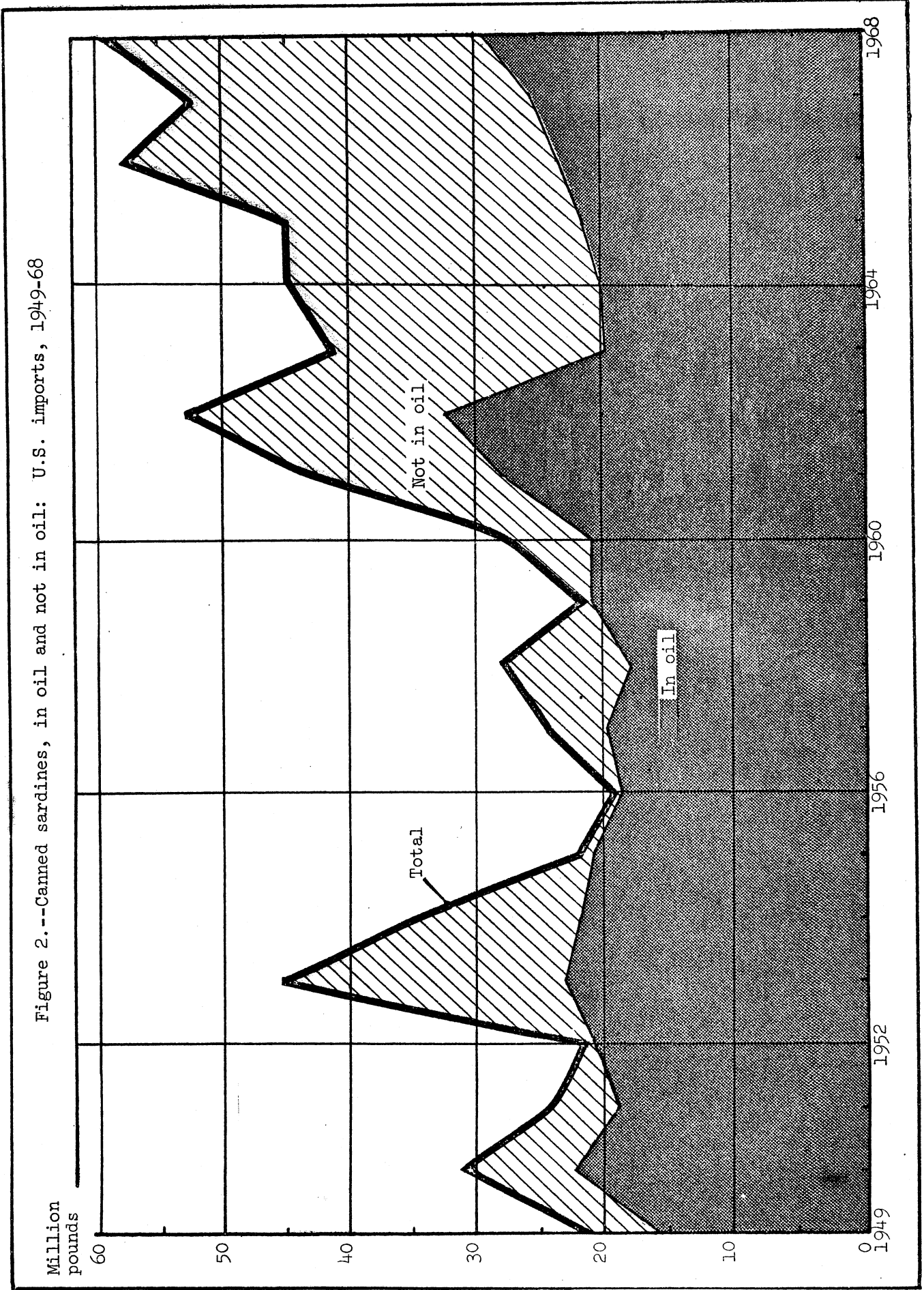


Figure 2.--Canned sardines, in oil and not in oil: U.S. imports, 1949-68



Million pounds

60

50

40

30

20

10

0

1949

1952

1956

1960

1964

1968

Total

Not in oil

In oil